

**UTILISATION CERTIFICATE**  
**FOR THE FINANCIAL YEAR- (ENDING 31<sup>st</sup> March) Year 2017**  
**(To be given separately for each financial year ending on 31<sup>st</sup> March)**

U.C. Pertains to: Appropriate box	First Release <input checked="" type="checkbox"/>	Second Release	Third Release	Fourth Release	Final Release
--------------------------------------	--	-------------------	------------------	-------------------	------------------

Is the UC provisional: YES/ NO

1.	Title of the Project/ Scheme:	"Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat ( <i>Triticum aestivum</i> L.)"
2.	Name of Principal Investigator:	Dr. Santosh Kumar Upadhyay
3.	Implementing Institution:	Department of Botany, Panjab University, Chandigarh
4.	SERB sanction order No. & date:	File No. ECR/2016/001270 dated 21.3.2017
5.	Amount brought forward from the previous financial year quoting SERB letter number and date in which the authority to carry forward the said amount was given	Amount: NIL Letter/Order No.: NIL Date: NIL
6a.	Amount received during the financial year (Please give SERB letter/ order No and date for the amount)	Amount: Rs. 2,00,000/- Letter/ Order No. File No. ECR/2016/001270 Dated 21.3.2017
6b.	Interest earned, if any:	NIL
7.	Total amount that was available for expenditure Rs. (excluding commitments) during the financial year (Sr. No. 5+6a+6b)	Rs. 2,00,000/-
8.	Actual Expenditure (excluding commitments) incurred during the financial year (upto 31 <sup>st</sup> March, 2017).	NIL
9.	Balance amount available at the end of the financial year (8-9): OR/ Negative balance (If expenditure incurred in more than the funds released)	Rs. 2,00,000/-
10.	Unspent balance, if any, refunded to SERB (give details of cheque/ DD No. etc.	Amount: NIL Cheque/DD NO.: NIL Date: NIL
11.	Amount to be carried forward to the next financial year (if any)	Rs. 2,00,000/-

## UTILISATION CERTIFICATE

Certified that out of Rs. 2,00,000/- of **Recurring** grants-in-aid sanctioned during the year **March 24-31, 2017** in favour of Registrar Panjab University, Chandigarh under SERB letter/ Order No. File No. ECR/2016/001270 dated 21.3.2017 and **Rs. NIL** on account of unspent balance of the previous year, a sum of Rs. NIL has been utilised for the purpose for which it was sanctioned and that the balance of Rs. 2,00,000/- remaining unutilised at the end of the year will be adjusted towards the Recurring grants-in-aid payable during the next year i.e. 2017-2018.

Certified that we have satisfied ourselves that the conditions on which the grants-in-aid was sanctioned have been fulfilled/ are being fulfilled and that we have exercised the following checks to see that the money as actually utilised for the purpose for which it was sanctioned.

Kinds of checks exercised:

- 1.
- 2.

Signature of PI

Signature of F.D.O.

Signature of Head of Institution

### Guidelines for preparation of UC.

1. U.C. should be only for the grants released by the SERB. Please do not account for security deposits/ other matching grants/ account opening charges and miscellaneous items.
2. SERB sanction File No. ECR/2016/001270 dated 21.3.2017 should be accurately shown in the U.C.
3. Even if the grant is unutilized in the financial year in which the grant was released by SERB a NIL U.C. needs to be forwarded to SERB along with a request for carrying forward the grant to the next financial year. Such grants which are carried forward must be shown in the subsequent U.C. as carried forward grant and not account received in the subsequent year (Ref. Sr. No. 5 on pre- page).

### Science and Engineering Research Board

UC accepted has been accepted by

Signature \_\_\_\_\_

Name of the SERB Officer \_\_\_\_\_

Designation \_\_\_\_\_

**UC for Non-Recurring Grants**

**UTILISATION CERTIFICATE  
FOR THE FINANCIAL YEAR- (ENDING 31<sup>st</sup> March) Year 2017  
(To be given separately for each financial year ending on 31<sup>st</sup> March)**

U.C. Pertains to: Appropriate box	First Release ✓	Second Release	Third Release	Fourth Release	Final Release
--------------------------------------	--------------------	-------------------	------------------	-------------------	------------------

Is the UC provisional: YES/ NO

1.	Title of the Project/ Scheme:	“Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat ( <i>Triticum aestivum</i> L.)”
2.	Name of Principal Investigator:	Dr. Santosh Kumar Upadhyay
3.	Implementing Institution:	Department of Botany, Panjab University, Chandigarh
4.	SERB sanction order No. & date:	File No. ECR/2016/001270 dated 21.3.2017
5.	Amount brought forward from the previous financial year quoting SERB letter number and date in which the authority to carry forward the said amount was given	Amount: NIL Letter/Order No.: NIL Date: NIL
6a.	Amount received during the financial year (Please give SERB letter/ order No and date for the amount)	Amount: Rs. 15,00,000/- Letter/ Order No. File No. ECR/2016/001270 Dated 21.3.2017
6b.	Interest earned, if any:	Rs. 10/-
7.	Total amount that was available for expenditure Rs. (excluding commitments) during the financial year (Sr. No. 5+6a+6b)	Rs. 15,00,010/-
8.	Actual Expenditure (excluding commitments) incurred during the financial year (upto 31 <sup>st</sup> March, 2017).	NIL
9.	Balance amount available at the end of the financial year (8-9): OR/ Negative balance (If expenditure incurred in more than the funds released)	Rs. 15,00,010/-
10.	Unspent balance, if any, refunded to SERB (give details of cheque/ DD No. etc.	Amount: NIL Cheque/DD NO.: NIL Date: NIL
11.	Amount to be carried forward to the next financial year (if any)	Rs. 15,00,010/-

## UTILISATION CERTIFICATE

Certified that out of Rs. 15,00,000/- of **Non-Recurring** grants-in-aid sanctioned during the year **31<sup>st</sup> March 2017** in favour of Registrar Panjab University, Chandigarh under SERB letter/ Order File No. ECR/2016/001270 dated 21.3.2017 **and Rs. NIL** on account of unspent balance of the previous year, a sum of Rs. NIL has been utilised for the purpose for which it was sanctioned and that the balance of Rs. 15,00,000/- and interest of Rs. 10/- (G. Total Rs. 15,00,010/-) remaining unutilised at the end of the year will be adjusted towards the **Non-Recurring grants-in-aid payable during the next year i.e. 2017-2018.**

Certified that we have satisfied ourselves that the conditions on which the grants-in-aid was sanctioned have been fulfilled/ are being fulfilled and that we have exercised the following checks to see that the money as actually utilised for the purpose for which it was sanctioned.

Kinds of checks exercised:

- 1.
- 2./

Signature of PI

Signature of F.D.O.

Signature of Head of Institution

### Guidelines for preparation of UC.

1. U.C. should be only for the grants released by the SERB. Please **do not account** for security deposits/ other matching grants/ account opening charges and miscellaneous items.
2. SERB sanction File No. ECR/2016/001270 dated 21.3.2017 should be accurately shown in the U.C.
3. Even if the grant is unutilized in the financial year in which the grant was released by SERB a NIL U.C. needs to be forwarded to SERB along with a request for carrying forward the grant to the next financial year. Such grants which are carried forward must be shown in the subsequent U.C. as carried forward grant and not account received in the subsequent year (Ref. Sl. No. 5 on pre- page).

### Science and Engineering Research Board

UC accepted has been accepted by

Signature \_\_\_\_\_

Name of the SERB Officer \_\_\_\_\_

Designation \_\_\_\_\_



### Statement of Expenditure

(to be submitted financial year wise i.e. DOS\* to 31<sup>st</sup> March of that financial year say 24.3.2017 to 31.3.2017 +1 year and so on)

Sr. No. (I)	Sanctioned Heads (II)	Total funds Allocated (Indicate sanctioned (III)	Expenditure Incurred			Total Expenditure till 31.3.2017 (VII = IV + V + VI)	Balance as on date (VIII = III-VII)	Requirement of funds upto 31 <sup>st</sup> March next year (i.e. 2017-2018)	Remarks (If any)
			1 <sup>st</sup> Year (DOS i.e. 24 <sup>th</sup> March, 2017 to 31 <sup>st</sup> March (IV)	2 <sup>nd</sup> Year (1 <sup>st</sup> (1 <sup>st</sup> April to 31 <sup>st</sup> March next year) (V)	3 <sup>rd</sup> Year & so on (1 <sup>st</sup> April to 31 <sup>st</sup> March, next year) (VI)				
1.	Manpower Costs	75,000/-	Nil			Nil	75,000/-	2,85,000/-	
2.	Consumables	1,25,000/-	Nil			Nil	1,25,000/-	2,08,334/-	
3.	Travel		Nil			Nil		13,334/-	
4.	Contingencies		Nil			Nil		20,000/-	
5.	Others, if any		Nil			Nil		NIL	
6.	Equipment	15,00,000/-	Nil	-	-	Nil	15,00,000/-	Nil	-
7.	Overhead expenses		Nil			Nil		1,24,106/-	
8.	Interest	10/-					10/-		
<b>Total</b>		<b>17,00,010/-</b>	<b>Nil</b>			<b>Nil</b>	<b>17,00,010/-</b>	<b>6,50,774/-</b>	

Signature of PI  
Santosh Kumar Upadhyay

Signature of F.D.O.

Signature of Head of Institution

\* DOS-Date of Start of Project:

Note:

- Expenditure under the sanctioned heads, at any pint of time, should not exceed funds allocated under that head, without prior approval of SERB i.e. Figures in Column (VIII) should not exceed corresponding figures in Column (III).
- Utilization Certificate (Annexure-III) for each financial year ending 31<sup>st</sup> March has to be enclosed along with request for carry forward permission to the next financial year.

**REQUEST FOR ANNUAL INSTALLMENT WITHUP – TO-DATE STATEMENT OF EXPENDITURE**

1. SERB Sanction Order No an date: Letter/ Order No. File No. ECR/2016/001270 Dated 21.3.2017
2. Name of the PI: Dr. Santosh Kumar Upadhyay
3. Total Project Cost: Rs. 40,95,520/-
4. Revised Project Cost (if applicable)
5. Date of Commencement: March 24, 2017
6. Statement of Expenditure: (Month wise expenditure incurred during current financial year)

Month & year	Expenditure incurred/ committed
	NIL

1. Grant received in each year:
  - a. 1<sup>st</sup> year: Rs. 17,00,000/- (Rs. 2,00,000 recurring and Rs. 15,00,000/- Non-recurring)
  - b. 2<sup>nd</sup> Year:
  - c. 3<sup>rd</sup> Year:
  - d. Interest, if any:
  - e. Total (a+b+c+d):

(Santosh Kumar Upadhyay)  
Principal Investigator







# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**July 24, 2017**

The Assistant Registrar (Accounts G&P)  
Panjab University,  
Chandigarh

Dear Sir,

Please find enclosed herewith 3 copies of the Statement of Expenditure and Utilization Certificate for the period of 24.3.2017 to 31.3.2017 of my research project sanctioned by the Ministry of Science & Engineering Research Board (**SERB**), 5 & 5A, Lower Ground Floor, Vasant Square Mall, Sector-B, Pocket-5, Vasant Kunj, New Delhi on “**Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)**”. You are requested to get the signature of the concerned authority on the above mentioned documents.

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

The Assistant Registrar (Accounts G&P)  
Panjab University,  
Chandigarh

Ref. \_\_\_\_\_

**July 24, 2017**

Dear Sir,

Please find enclosed herewith a copy of the Research Proposal to be submitted in the Ministry\_\_\_\_\_. You is requested to get the signature from the Registrar on the above mentioned documents.

.

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

(91) (0172) 2534001 (Off.)

E-mail: [skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)

Ref. \_\_\_\_\_/SKU/Bot

July 24, 2017

**Subject:** Purchase of **Plant Growth Chamber** under **DBT Research Project** sanctioned to Dr. S. K. Upadhyay, Department of Botany, Panjab University, Chandigarh.

1. The Technical/ Purchase Committee unanimously approved/ recommended (**Repeat Order**) for the purchase of **Plant Growth Chamber** in its **meeting held on 19.07.2017 (a copy of the proceedings is enclosed) out of** DBT Research Project under the budget-head- "Equipment".
  - a) Name /Brand of the Article: (**as mentioned in the quotations**)
  - b) Specifications: **Chamber Construction:** Floor standing, **Capacity:** ≥300 Liter, **Temperature range:** 5 °C to + 60 °C with an accuracy of +/- 1°C, **Humidity range:** 30% RH to 98% RH with sensitivity of +/- 3%, **Illumination:** Automatic Clock based Light / Dark control system comprising of fluorescent lights. **Test Cycles:** Multiple Settable Cycles Control system with memory to preset test cycles as per requirements. **Data memory & print:** Pendrive Interface for easy logging data transfer to PC. **Display** 1,00,000 Data Logging Readings. Data Logging with data memory & optional added Thermal printer facility. **Controller** Microprocessor/Microcontroller based Controller. **Pendrive Data Collection:** Pendrive Interface for easy logging data transfer to PC, **Alarms:** Customized alarm system to warn various, such as Low/High Temperature, Low/High Humidity, Low Water, Door Open, etc. **Outer Panels:** Outer panels are made of High Grade Stainless Steel Sheet Grade 304, see detail mentioned in the N.I.Q./ Technical comparative Statement.
2. It recently came into the notice of the committee that Dr. S. K. Upadhyay, Department of Botany, Panjab University, Chandigarh has recently finalized a similar equipment after following the proper procedure of inviting quotations and getting the same approved by the Director, Research Promotion Cell, P.U., Chandigarh at a total cost of Rs. 3,37,219/- vide No. GP/375/A dated 16.6.2017.
3. The members of the Technical/ Purchase Committee of the Department are satisfied with the make and the specifications of the equipment and unanimously approved that the purchase will be made **according to Panjab University Accounts Manual 2012 Page No. 198 Para 27.14.10 (Repeat Order)**, "In such cases to save the University time and resources, the department can issue a repeat order, the Purchase/ Technical Committee certified that the rates of earlier purchase still hold good/reasonable and the performance of the supplier is satisfactory and further certified that the repeat order will be made before a period of six months from the date of issue of first purchase order for the above said purchase". A copy of recommendation of the Committee is attached. This will save the Department as well as University's time and resources. As the rate quoted by M/s Himalaya Scientific House, SCF-6 1<sup>st</sup> Floor, Sector 15-C, Chandigarh-160 015 for the supply of **Plant Growth Chamber** in question, still appears to be reasonable and the performance of the MAKE and the supplier is also satisfactory, it is requested that we may kindly be allowed to place a Repeat Order to the above mentioned firm as per terms and conditions already approved for the Department of Botany, conveyed vide letter No. GP/375/A dated 16.6.2017.

**It is recommended that:**

- i) The purchase may be allowed under (**Repeat Order**) and lowest quotation basis and as per requirements/ required specifications as desired by the P.I. The Technical/ Purchase Committee unanimously recommended that the **Plant Growth Chamber** will be purchased from M/s Himalaya Scientific House, SCF-6 1<sup>st</sup> Floor, Sector 15-C, Chandigarh-160 015, who has quoted the lowest rate of **Rs. 3,37,219/- including VAT** etc. and as per required specifications, as desired by the Principal Investigator. The quotations were found to be suitable as per our requirements/ specifications for research.
- ii) You are requested that an amount of **Rs. 3,37,219/- (including VAT)** may kindly be sanctioned. The expenditure will be met from the **DBT Research Project Grant** under the budget head "**Equipment**", where requisite provision exists.

(S. K. Upadhyay)  
Principal Investigator

F.D.O  
P.U., Chandigarh



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

E-mail: skupadhyay@pu.ac.in

N.I.Q.

Ref. No. 194-198/SKU/Bot

Date: 25.7.2017

**UNDER REGISTERED POST**

Dear Sir,

Please quote your lowest rates in DUPLICATE, for the item (s) given below as per the specifications. Your quotation should reach the undersigned on **or before 7.8.2017**.

---

### PCR System:

Sample capacity: 96x0.2ml, Peltier Number: 8, Block material: aluminium Alloy, Temperature Range (°C), Heating Rate (°C/sec): 5, Cooling Rate (°C/sec): 4, Block Temperature Accuracy (°C):  $\pm 0.2$  of programmed Target, Control Accuracy (°C):  $\pm 0.1$  (30-99.9 °C), Uniformity (°C):  $\pm 0.2$  (30-72°C, 10s)/  $\pm 0.3$  (90°C, 10s), Control Mode: Block, Tube, Hot-lid Temperature (°C), 30-110 °C, Gradient Range (°C): 1-30°C, Gradient Temp Range (°C): 30°C-100°C, Display Screen: 8 inches, 800x600 pixels, TFT, Touch, Programs saving: 10000 files + (USB Flash), including Power- off Recover, Temperature time increase/ decrease progressively, Pause function, Edit File While Running, Support for USB Mouse, support for Touch Screen, Connection: USB, Ethernet, Network control, auto-open Lid, PC Control software, Input voltage: AC85-264, 47-63Hz, Input power: 600W, Footprint (DxWxH) cm: 38x24x26, Weight (Kg) 8.5, Standard Warranty 2 years.

**Warranty both parts labour should be minimum of two years.**

---

The rates quoted should be **FOR Botany Department**, P. U., Chandigarh. **SPECIAL DISCOUNT** for educational institutions/University teaching department may be mentioned. **The technical, financial bids and EMD be enclosed in separate sealed envelopes** duly marked and placed together in a duly sealed envelope giving our reference and due date of quotation. It should reach to **Dr. S. K. Upadhyay, Principal Investigator Department of Botany, Panjab University, Chandigarh-160 014** by due date. **Warranty both parts labour should be minimum of two years.**

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator

**UNDER REGISTERED POST**

**For the purchase of PCR System**

M/s. Ahuja Agencies  
S.C.F. No. 30, Sector 15-C  
Chandigarh

M/s. Vallabh Scientific Corporation  
SCO 63, 2<sup>nd</sup> Floor  
Sector – 32  
Chandigarh

M/s. Thermo Fisher Scientific  
Kripa Nagar (Chandigarh Road)  
Ambala City-134007  
Haryana

M/s. Indoam Medicos  
SCF 212, F.F., Sector -24-D  
Chandigarh.

M/s Lab Matric Inc  
S-98, Okhla Industrial Area, Phase-II  
New Delhi-110 020



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

E-mail: skupadhyay@pu.ac.in

N.I.Q.

*UNDER REGISTERED POST*

Ref. No. 199-203/SKU/Bot

Date: 25.7.2017

Dear Sir,

Please quote your lowest rates in DUPLICATE, for the item (s) given below as per the specifications. Your quotation should reach the undersigned on **or before 7.8.2017**.

---

### Refrigerated Centrifuge:

Low volume High Speed Refrigerated/ Cooling Centrifuge (**CRP-24 Plus**) Programable compensation for true sample temperature, pre-cooling, Acceleration Profiles 9, Declaration Profiles 9, Fast sping, Calibration window on lid for speed, Display LCD, Control communication digital, self-diagnostics of errors, parameters setting switches, PC connectivity with software, Brushless motor with frequency drive, Inverter fault detection with auto shut down, CFC free refrigeration system No. of programs, Last set parameters recall 99, Choice of rpm/ rcf setting RPM/ RCF, Temperature display °C/ °F, Digital countdown timer 0-99 min & Continuous run, Log of cumulative run time, User defined program for 5 programmes name, automatic door opening, automatic rotor Identification Motor overload protection, Emergency lid lock release, Imbalance detection with centrifugation cut off Password protection and Gas Hinge to prevent door falling.

**Technical Data:** Max. Speed rpm 20000, Max. RCF' 37570, Max. Tube size ml 100 (CRP-24 Plus) Max. Capacity ml 400, Lowest Temp. °C – 8, WxDxH mm 775x575x475.

**Rotor:** R-248M (24x1.5 ml)

**Warranty both parts labour should be minimum of two years.**

---

The rates quoted should be **FOR Botany Department**, P. U., Chandigarh. **SPECIAL DISCOUNT** for educational institutions/University teaching department may be mentioned. **The technical, financial bids and EMD be enclosed in separate sealed envelopes** duly marked and placed together in a duly sealed envelope giving our reference and due date of quotation. It should reach to **Dr. S. K. Upadhyay, Principal Investigator Department of Botany, Panjab University, Chandigarh-160 014 by due date. Warranty both parts labour should be minimum of two years.**

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator

**UNDER REGISTERED POST**

**For the purchase of Refrigerated Centrifuge**

M/s. City Scientific Emporium  
SCO 519, Sector 18-B  
Chandigarh

M/s. Ahuja Agencies  
S.C.F. No. 30, Sector 15-C  
Chandigarh

M/s. Agilent Technologies India Pvt. Ltd.  
DLF Info City Developers Chandigarh Ltd  
Ground Floor, Tower-D, Plot No. 2  
DLF IT Park, Kishan Garh, Chandigarh-160101

M/s. Vallabh Scientific Corporation  
SCO 63, 2<sup>nd</sup> Floor  
Sector – 32  
Chandigarh

M/s Lab Matric Inc  
S-98, Okhla Industrial Area, Phase-II  
New Delhi-110 020



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

E-mail: [skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)

## ADVERTISEMENT

Ref. No. 204-219/SKU/Bot

Date: 25.7.2017

### Positions Vacant

Applications on plain paper are invited for the following temporary position in a research project sanctioned by the Government of India, Ministry of Science & Technology, Department of Biotechnology (DBT), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “**Utilizing genome editing tools for nutritional improvement in wheat**” for three years.

### **Technical Staff:**

**Junior Research Fellow:** one @ Rs 25,000/- fixed p.m. + HRA for first 2 years and Rs. 28,000/- fixed p.m. + HRA for 3<sup>rd</sup> year.

**Non-NET** candidate may be considered for appointment as Research Fellow @ Rs. 14000/- p.m. (fixed), if the NET-qualified candidates are not available.

### Eligibility conditions:

**Junior Research Fellow:** M.Sc. (Botany/ Biotechnology/ Biochemistry/ M. Tech in Biotechnology) with 55% marks and preference will be given to those, who have qualified CSIR-NET / SLET /PU Ph.D. Entrance test or equivalent test qualified in life sciences.

### **Desirable qualification/ skills:**

(i) Should have knowledge and skills for data mining in biological sequence database and, sequence analysis tools/ packages. (ii) Should have knowledge in basic molecular biology techniques.

### **Age Limit:**

28 years which is relaxed up to 5 years in the case of candidates belonging to Schedule Castes/ Schedule Tribes, Women, Physically Handicapped and OBCs etc?

### Terms & Conditions:

- The positions are co-terminus with the completion of the Research Project or even before (at one month notice, if the work and conduct is not found satisfactory).

### How to apply:

Applications on plain paper giving following details must reach the **undersigned latest by the August 8, 2017.**

*Name, Parents' name, postal address, e.mail address and cell-phone number for communication; academic career with details of 10<sup>th</sup>, 10+2, B.Sc. M.Sc. and M.Phil (if applicable), CSIR-NET/SLET/PU Ph.D.-Entrance Test with supporting documents, research publications, experience certificates.*

- Digital application (in pdf format) can also be sent by e.mail (**[skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)**).
- The hard copy can be brought and submitted at the time of interview, in case of digital application along with all testimonials and original documents.
- No TA/ DA is applicable for attending the interview.
- The selected candidate shall be governed by DBT and / or Panjab University Rules and Regulations.

**Kindly put on the Notice Board.**

(S. K. Upadhyay)  
Principal Investigator



## Registered Post

The Chairperson  
Department of Botany  
University of Delhi, Delhi

The Chairperson  
Department of Botany  
Panjab University, Patiala

The Chairperson  
*Department of Biosciences*  
H.P. University, Shimla (H.P.)

The Chairperson  
Department of Botany  
Kurukshetra University Kurukshetra (Haryana)

The Head  
Department of Botany  
Lucknow University, Lucknow

The Head  
Department of Botany  
M.D. University, Rohtak, Haryana

The Head  
Department of Botany  
P.A.U., Ludhiana (Pb.)

The Head  
Department of Botany  
Jammu University, Jammu

The Chairperson  
Department of Botany  
University of Rajasthan, Jaipur

The Chairperson  
Department of Botany  
G.N.D.U. Amritsar (Pb.)

The Head  
Department of Botany  
H.A.U. Hisar

The Head  
Department of Environment Sciences  
GJU, Hisar

The Head  
Department of Life Science/ Environment  
Inderprastha University  
Delhi

The Director  
Institute of Himalayan Bio-resource Technology (IHBT)  
P.B. No. 6  
Palampur-176 061 (H.P.)



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**July 26, 2017**

Director  
Research Promotion Cell  
Panjab University  
Chandigarh

Through: Finance and Development Office, P.U., Chandigarh.

Sir,

I am planning to visit National Botanical Research Institute, Lucknow (U.P.) and adjoining area from August 10-14, 2017 for the collection of research material of my research project sanctioned by the Department of Science and Technology, Ministry of Science and Technology (**DST- INSPIRE**), New Delhi on "Identification, Isolation, and characterization of novel insecticidal proteins from lower plant diversity".

You are requested to kindly accord sanction to visit the above mentioned place by Train and local on taxi and also allow us to draw T.A., D.A and local travel as per rules. The expenditure on this will be met out of the budget head "Travel" grant of the **DST-INSPIRE project**, where the budget provision exists.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



**Technical Comparative Statement** for the purchase of **Refrigerated Centrifuge** under **DBT Research Project** sanctioned to **Dr. S. K. Upadhyay**, Department of Botany, Panjab University, Chandigarh.

<p><b>Refrigerated Centrifuge:</b></p> <p>Low volume High Speed Refrigerated/ Cooling Centrifuge (<b>CRP-24 Plus</b>) Programable compensation for true sample temperature, pre-cooling, Acceleration Profiles 9, Declaration Profiles 9, Fast spinning, Calibration window on lid for speed, Display LCD, Control communication digital, self-diagnostics of errors, parameters setting switches, PC connectivity with software, Brushless motor with frequency drive, Inverter fault detection with auto shut down, CFC free refrigeration system No. of programs, Last set parameters recall 99, Choice of rpm/ rcf setting RPM/ RCF, Temperature display °C/ °F, Digital countdown timer 0-99 min &amp; Continuous run, Log of cumulative run time, User defined program for 5 programmes name, automatic door opening, automatic rotor Identification Motor overload protection, Emergency lid lock release, Imbalance detection with centrifugation cut off Password protection and Gas Hinge to prevent door falling.</p> <p><b>Technical Data:</b> Max. Speed rpm 20000, Max. RCF 37570, Max. Tube size ml 100 (CRP-24 Plus) Max. Capacity ml 400, Lowest Temp. °C – 8, WxDxH mm 775x575x475.</p> <p><b>Rotor:</b> R-248M (24x1.5 ml)</p> <p><b>Warranty both parts labour should be minimum of two years.</b></p>	<p>M/s. Ahuja Agencies S.C.F. No. 30, Sector 15-C Chandigarh</p> <hr/> <p><b>High speed Refrigerated Centrifuge Machine</b> CE certified with some of the main features as below. Model No. CPR-24 Plus with Rotor for 24x1.5 ml for use up to 20000 RPM and suitable voltage stabilizer for use with the machine. Maximum speed up to 20000 RPM, Maximum RCF 37570 Temperature range ambient to – 8°C with sample temp less than 4°C at maximum speed. Maintenance free brushless induction motor Full metallic body with rust proof steel inner chamber. Automatic rotor recognition and Imbalance detector with cut off is provided. 4' LCD display alpha numeric with display of Rpm, Rcf, time and temp. smooth low noise model Facility for pre-cooling before run. Other additional such as 99 programmes, self diagnostic of errors, inverter fault detection with auto shut down, CFC free refrigeration system, emergency lid lock release. Detailed specifications as per attached literature. To work on 220 Volts. AC., 50 Hz single phase, can be supplied as above with rotor heads for 1.5 ml for speed upto 20000 RPM, 15 ml and 50 ml with max speed upto 16000 RPM along with standard accessories Other specification as per literature attached and as per the compliance statement.</p>	<p>M/s. Vallabh Scientific Corporation SCO 63, 2<sup>nd</sup> Floor Sector – 32, Chandigarh</p> <hr/> <p><b>High speed Refrigerated Centrifuge Machine</b> CE certified with some of the main features as below. Model No. CPR-24 Plus with Rotor for 24x1.5 ml for use up to 20000 RPM and suitable voltage stabilizer for use with the machine. Maximum speed up to 20000 RPM, Maximum RCF 37570 Temperature range ambient to – 8°C with sample temp less than 4°C at maximum speed. Maintenance free brushless induction motor Full metallic body with rust proof steel inner chamber. Automatic rotor recognition and Imbalance detector with cut off is provided. 4' LCD display alpha numeric with display of Rpm, Rcf, time and temp. smooth low noise model Facility for pre-cooling before run. Other additional such as 99 programmes, self diagnostic of errors, inverter fault detection with auto shut down, CFC free refrigeration system, emergency lid lock release. Detailed specifications as per attached literature. To work on 220 Volts. AC., 50 Hz single phase, can be supplied as above with rotor heads for 1.5 ml for speed upto 20000 RPM, 15 ml and 50 ml with max speed upto 16000 RPM along with standard accessories Other specification as per literature attached and as per the compliance statement</p>	<p>M/s. City Scientific Emporium SCO 519, Sector 18-B Chandigarh</p> <hr/> <p><b>High speed Refrigerated Centrifuge Machine</b> CE certified with some of the main features as below. Model No. CPR-24 Plus with Rotor for 24x1.5 ml for use up to 20000 RPM and suitable voltage stabilizer for use with the machine. Maximum speed up to 20000 RPM, Maximum RCF 37570 Temperature range ambient to – 8°C with sample temp less than 4°C at maximum speed. Maintenance free brushless induction motor Full metallic body with rust proof steel inner chamber. Automatic rotor recognition and Imbalance detector with cut off is provided. 4' LCD display alpha numeric with display of Rpm, Rcf, time and temp. smooth low noise model Facility for pre-cooling before run. Other additional such as 99 programmes, self diagnostic of errors, inverter fault detection with auto shut down, CFC free refrigeration system, emergency lid lock release. Detailed specifications as per attached literature. To work on 220 Volts. AC., 50 Hz single phase, can be supplied as above with rotor heads for 1.5 ml for speed upto 20000 RPM, 15 ml and 50 ml with max speed upto 16000 RPM along with standard accessories Other specification as per literature attached and as per the compliance statement</p>
--	---	---	--

The Purchase-cum-Technical Committee of the Department of Botany, Panjab University, Chandigarh was held on 10.8.2017 in the Office of the Chairperson to open the quotations (Technical Bids) of the equipments to be purchased under **DBT Research Project sanctioned to Dr. S. K. Upadhyay**. The Purchase Committee unanimously approved, the Technical Specifications of all the above mentioned three firms for the purchase of **Refrigerated Centrifuge**. All these firms have quoted the required specifications as desired by the Principal Investigator.

(Harsh Nayyar)

(Kamaljit Singh)

(M. C. Sidhu)

(A. N. Singh)

(S. K. Upadhyay)

Chairperson                                  Member                                  Secretary Technical Committee                                  Member                                  Principal Investigator  
**Financial Comparative Statement** for the purchase of **Refrigerated Centrifuge** under **DBT** Research Project sanctioned to **Dr. S. K. Upadhyay**, Department of Botany, Panjab University, Chandigarh.

<p><b>Refrigerated Centrifuge:</b></p> <p>Low volume High Speed Refrigerated/ Cooling Centrifuge (<b>CRP-24 Plus</b>) Programable compensation for true sample temperature, pre-cooling, Acceleration Profiles 9, Declaration Profiles 9, Fast sping, Calibration window on lid for speed, Display LCD, Control communication digital, self-diagnostics of errors, parameters setting switches, PC connectivity with software etc.</p> <p><b>Technical Data:</b> Max. Speed rpm 20000, Max. RCF 37570, Max. Tube size ml 100 (CRP-24 Plus) Max. Capacity ml 400, Lowest Temp. °C – 8, WxDxH mm 775x575x475.</p> <p><b>Rotor:</b> R-248M (24x1.5 ml)</p> <p><b>Detail of the Specifications mentioned in the Technical Comparative Statement.</b></p>	<p>M/s. Ahuja Agencies S.C.F. No. 30, Sector 15-C, Chandigarh</p> <hr/> <p><b>High speed Refrigerated Centrifuge Machine</b> CE certified with some of the main features as below. Model No. CPR-24 Plus with Rotor for 24x1.5 ml for use up to 20000 RPM and suitable voltage stabilizer for use with the machine. Maximum speed up to 20000 RPM, Maximum RCF 37570 Temperature range ambient to – 8°C with sample temp less than 4°C at maximum speed. Maintenance free brushless induction motor Full metallic body with rust proof steel inner chamber. Automatic rotor recognition and Imbalance detector with cut off is provided. 4' LCD display alpha numeric with display of Rpm, Rcf, time and temp. smooth low noise model</p> <p><b>Detail of the Specifications mentioned in the Technical Comparative Statement.</b>  <b>Cost Rs. 2,94,900/-</b>  <b>GST @ 18% = 53,082</b>  <b>G. Total Rs. 2,94,900/- + 53,082/- = 3,47,982/-</b></p>	<p>M/s. Vallabh Scientific Corporation SCO 63, 2<sup>nd</sup> Floor, Sector – 32, Chandigarh</p> <hr/> <p><b>High speed Refrigerated Centrifuge Machine</b> CE certified with some of the main features as below. Model No. CPR-24 Plus with Rotor for 24x1.5 ml for use up to 20000 RPM and suitable voltage stabilizer for use with the machine. Maximum speed up to 20000 RPM, Maximum RCF 37570 Temperature range ambient to – 8°C with sample temp less than 4°C at maximum speed. Maintenance free brushless induction motor Full metallic body with rust proof steel inner chamber. Automatic rotor recognition and Imbalance detector with cut off is provided. 4' LCD display alpha numeric with display of Rpm, Rcf, time and temp. smooth low noise model</p> <p><b>Detail of the Specifications mentioned in the Technical Comparative Statement.</b>  <b>Cost Rs. 2,97,000/-</b>  <b>GST @ 18% = 53,460/-</b>  <b>G. Total Rs. 2,97,000/- + 53,460/- = 3,50,460/-</b></p>	<p>M/s. City Scientific Emporium SCO 519, Sector 18-B, Chandigarh</p> <hr/> <p><b>High speed Refrigerated Centrifuge Machine</b> CE certified with some of the main features as below. Model No. CPR-24 Plus with Rotor for 24x1.5 ml for use up to 20000 RPM and suitable voltage stabilizer for use with the machine. Maximum speed up to 20000 RPM, Maximum RCF 37570 Temperature range ambient to – 8°C with sample temp less than 4°C at maximum speed. Maintenance free brushless induction motor Full metallic body with rust proof steel inner chamber. Automatic rotor recognition and Imbalance detector with cut off is provided. 4' LCD display alpha numeric with display of Rpm, Rcf, time and temp. smooth low noise model</p> <p><b>Detail of the Specifications mentioned in the Technical Comparative Statement.</b>  <b>Cost Rs. 2,98,500/-</b>  <b>GST @ 18% = 53,730/-</b>  <b>G. Total Rs. 2,98,500/- + 53,730/- = 3,52,230/-</b></p>
Warranty	2 years	Two Years	-
Delivery	With in 4 -6 weeks	With in 2 months	With in 30 days
Validity	90 days	3 months	90 days
Payment	With in 30 days	Within 30 days	With in 30 days
Discount	-	-	-
GST	GST 18%	GST 18%	GST 18%
<b>Total Cost</b>	<b>Rs. 3,47,982/-</b>	<b>Rs. 3,50,460/-</b>	<b>Rs. 3,52,230/-</b>

The Purchase-cum-Technical Committee of the Department of Botany, Panjab University, Chandigarh met on 10.8.2017 in the Office of the Chairperson to open the Financial Bids and EMD of the equipments to be purchased under **DBT Research Project sanctioned to Dr. S. K. Upadhyay**. The Purchase Committee unanimously recommended that the **Refrigerated**

**Centrifuge**, will be purchased from M/s. Ahuja Agencies, S.C.F. No. 30, Sector 15-C, Chandigarh, , who has quoted the lowest rate of **Rs. 3,47,982/- including GST** etc. and as per required specifications, as desired by the Principal Investigator.

(Harsh Nayyar)  
Chairperson

(Kamaljit Singh)  
Member

(M. C. Sidhu)  
Secretary Technical Committee

(A. N. Singh)  
Member

(S. K. Upadhyay)  
Principal Investigator

**Technical Comparative Statement** for the purchase of **PCR Machine (System)**: under **DBT Research Project** sanctioned to **Dr. S. K. Upadhyay**, Department of Botany, Panjab University, Chandigarh.

<p><b>PCR Machine (System):</b></p> <p>Sample capacity: 96x0.2ml, Peltier Number: 8, Block material: aluminium Alloy, Temperature Range (°C), Heating Rate (°C/sec): 5, Cooling Rate (°C/sec): 4, Block Temperature Accuracy (°C): <math>\pm 0.2</math> of programmed Target, Control Accuracy (°C): <math>\pm 0.1</math> (30-99.9 °C), Uniformity (°C): <math>\pm 0.2</math> (30-72°C, 10s)/ <math>\pm 0.3</math> (90°C, 10s), Control Mode: Block, Tube, Hot-lid Temperature (°C), 30-110 °C, Gradient Range (°C): 1-30°C, Gradient Temp Range (°C): 30°C-100°C, Display Screen: 8 inches, 800x600 pixels, TFT, Touch, Programs saving: 10000 files + (USB Flash), including Power- off Recover, Temperature time increase/ decrease progressively, Pause function, Edit File While Running, Support for USB Mouse, support for Touch Screen, Connection: USB, Ethernet, Network control, auto-open Lid, PC Control software, Input voltage: AC85-264, 47-63Hz, Input power: 600W, Footprint (DxWxH) cm: 38x24x26, Weight (Kg) 8.5, Standard Warranty 2 years.</p> <p><b>Warranty both parts labour should be minimum of two years.</b></p>	<p>M/s. Ahuja Agencies S.C.F. No. 30, Sector 15-C Chandigarh</p> <hr/> <p><b>PCR System. Model No.</b> <b>LA949-1No.</b> <b>Gradient PCR Prima 96</b> <b>(Thermal cycler)</b> <b>Specifications:</b> Sample capacity: 96x0.2ml, Peltier Number: 8, Block material: aluminium Alloy, Temperature Range (°C), Heating Rate (°C/sec): 5, Cooling Rate (°C/sec): 4, Block Temperature Accuracy (°C): <math>\pm 0.2</math> of programmed Target, Control Accuracy (°C): <math>\pm 0.1</math> (30-99.9 °C), Uniformity (°C): <math>\pm 0.2</math> (30-72°C, 10s)/ <math>\pm 0.3</math> (90°C, 10s), Control Mode: Block, Tube, Hot-lid Temperature (°C), 30-110 °C, Gradient Range (°C): 1-30°C, Gradient Temp Range (°C): 30°C-100°C, Display Screen: 8 inches, 800x600 pixels, TFT, Touch, Programs saving: 10000 files + (USB Flash), including Power- off Recover, Temperature time increase/ decrease progressively, Pause function, Edit File While Running, Support for USB Mouse, support for Touch Screen, Connection: USB, Ethernet, Network control, auto-open Lid, PC Control software, Input voltage: AC85-264, 47-63Hz, Input power: 600W, Footprint (DxWxH) cm: 38x24x26, Weight (Kg) 8.5, Standard Warranty 2 years.</p>	<p>M/s. Vallabh Scientific Corporation SCO 63, 2<sup>nd</sup> Floor Sector – 32, Chandigarh</p> <hr/> <p><b>PCR Machine (System):</b></p> <p>Sample capacity: 96x0.2ml, Peltier Number: 8, Block material: aluminium Alloy, Temperature Range (°C), Heating Rate (°C/sec): 5, Cooling Rate (°C/sec): 4, Block Temperature Accuracy (°C): <math>\pm 0.2</math> of programmed Target, Control Accuracy (°C): <math>\pm 0.1</math> (30-99.9 °C), Uniformity (°C): <math>\pm 0.2</math> (30-72°C, 10s)/ <math>\pm 0.3</math> (90°C, 10s), Control Mode: Block, Tube, Hot-lid Temperature (°C), 30-110 °C, Gradient Range (°C): 1-30°C, Gradient Temp Range (°C): 30°C-100°C, Display Screen: 8 inches, 800x600 pixels, TFT, Touch, Programs saving: 10000 files + (USB Flash), including Power- off Recover, Temperature time increase/ decrease progressively, Pause function, Edit File While Running, Support for USB Mouse, support for Touch Screen, Connection: USB, Ethernet, Network control, auto-open Lid, PC Control software, Input voltage: AC85-264, 47-63Hz, Input power: 600W, Footprint (DxWxH) cm: 38x24x26, Weight (Kg) 8.5, Standard Warranty 2 years.</p>	<p>M/s. Indoam Medicos SCF 212, F.F., Sector -24-D, Chandigarh.</p> <hr/> <p><b>PCR Machine (System):</b></p> <p>Sample capacity: 96x0.2ml, Peltier Number: 8, Block material: aluminium Alloy, Temperature Range (°C), Heating Rate (°C/sec): 5, Cooling Rate (°C/sec): 4, Block Temperature Accuracy (°C): <math>\pm 0.2</math> of programmed Target, Control Accuracy (°C): <math>\pm 0.1</math> (30-99.9 °C), Uniformity (°C): <math>\pm 0.2</math> (30-72°C, 10s)/ <math>\pm 0.3</math> (90°C, 10s), Control Mode: Block, Tube, Hot-lid Temperature (°C), 30-110 °C, Gradient Range (°C): 1-30°C, Gradient Temp Range (°C): 30°C-100°C, Display Screen: 8 inches, 800x600 pixels, TFT, Touch, Programs saving: 10000 files + (USB Flash), including Power- off Recover, Temperature time increase/ decrease progressively, Pause function, Edit File While Running, Support for USB Mouse, support for Touch Screen, Connection: USB, Ethernet, Network control, auto-open Lid, PC Control software, Input voltage: AC85-264, 47-63Hz, Input power: 600W, Footprint (DxWxH) cm: 38x24x26, Weight (Kg) 8.5, Standard Warranty 2 years.</p>
---	--	--	--

The Purchase-cum-Technical Committee of the Department of Botany, Panjab University, Chandigarh was held on 10.8.2017 in the Office of the Chairperson to open the quotations (Technical Bids) of the equipments to be purchased under **DBT Research Project sanctioned to Dr. S. K. Upadhyay**. The Purchase Committee unanimously approved, the Technical Specifications of all the above mentioned three firms for the purchase of **PCR Machine (System)**. All these firms have quoted the required specifications as desired by the Principal Investigator.

(Harsh Nayyar)  
Chairperson

(Kamaljit Singh)  
Member

(M. C. Sidhu)  
Secretary Technical Committee

(A. N. Singh)  
Member

(S. K. Upadhyay)  
Principal Investigator

**Financial Comparative Statement** for the purchase of **PCR Machine (System)**: under **DBT** Research Project sanctioned to **Dr. S. K. Upadhyay**, Department of Botany, Panjab University, Chandigarh.

<p><b>PCR Machine (System):</b></p> <p>Sample capacity: 96x0.2ml, Peltier Number: 8, Block material: aluminium Alloy, Temperature Range (°C), Heating Rate (°C/sec): 5, Cooling Rate (°C/sec): 4, Block Temperature Accuracy (°C): ± 0.2 of programmed Target, Control Accuracy (°C): ± 0.1 (30-99.9 °C), Uniformity (°C): ± 0.2 (30-72°C, 10s)/ ±0.3 (90°C, 10s), Control Mode: Block, Tube, Hot-lid Temperature (°C), 30-110 °C, Gradient Range (°C): 1-30°C, Gradient Temp Range (°C): 30°C-100°C, Display Screen: 8 inches, 800x600 pixels, TFT, Touch, Programs saving: 10000 files + (USB Flash), Touch Screen, Connection: USB, Ethernet, Network control, auto-open Lid, PC Control software, Input voltage: AC85-264, 47-63Hz, Input power: 600W, Footprint (DxWxH) cm: 38x24x26, Weight (Kg) 8.5</p> <p><b>Detail of the Specifications mentioned in the Technical Comparative Statement.</b></p>	<p>M/s. Ahuja Agencies S.C.F. No. 30, Sector 15-C, Chandigarh</p> <hr/> <p><b>PCR System. Model No. LA949-1No.</b></p> <p><b>Gradient PCR Prima 96 (Thermal cycler)</b></p> <p>Sample capacity: 96x0.2ml, Peltier Number: 8, Block material: aluminium Alloy, Temperature Range (°C), Heating Rate (°C/sec): 5, Cooling Rate (°C/sec): 4, Block Temperature Accuracy (°C): ± 0.2 of programmed Target, Control Accuracy (°C): ± 0.1 (30-99.9 °C), Uniformity (°C): ± 0.2 (30-72°C, 10s)/ ±0.3 (90°C, 10s), Control Mode: Block, Tube, Hot-lid Temperature (°C), 30-110 °C, Gradient Range (°C): 1-30°C, Gradient Temp Range (°C): 30°C-100°C, Display Screen: 8 inches, 800x600 pixels, TFT, Touch, Programs saving: 10000 files + (USB Flash), Touch Screen, Connection: USB, Ethernet, Network control, auto-open Lid, PC Control software, Input voltage: AC85-264, 47-63Hz, Input power: 600W, Footprint (DxWxH) cm: 38x24x26, Weight (Kg) 8.5</p> <p><b>Detail of the Specifications mentioned in the Technical Comparative Statement</b></p> <p><b>Cost Rs. 2,80,000/-</b> <b>GST 18% Rs. 50,400/-</b> <b>G. Total Rs. 2,80,000/- + 50,400/- = Rs. 3,30,400/-</b></p>	<p>M/s. Vallabh Scientific Corporation SCO 63, 2<sup>nd</sup> Floor, Sector – 32, Chandigarh</p> <hr/> <p><b>PCR Machine (System):</b></p> <p>Sample capacity: 96x0.2ml, Peltier Number: 8, Block material: aluminium Alloy, Temperature Range (°C), Heating Rate (°C/sec): 5, Cooling Rate (°C/sec): 4, Block Temperature Accuracy (°C): ± 0.2 of programmed Target, Control Accuracy (°C): ± 0.1 (30-99.9 °C), Uniformity (°C): ± 0.2 (30-72°C, 10s)/ ±0.3 (90°C, 10s), Control Mode: Block, Tube, Hot-lid Temperature (°C), 30-110 °C, Gradient Range (°C): 1-30°C, Gradient Temp Range (°C): 30°C-100°C, Display Screen: 8 inches, 800x600 pixels, TFT, Touch, Programs saving: 10000 files + (USB Flash), Touch Screen, Connection: USB, Ethernet, Network control, auto-open Lid, PC Control software, Input voltage: AC85-264, 47-63Hz, Input power: 600W, Footprint (DxWxH) cm: 38x24x26, Weight (Kg) 8.5, Standard Warranty 2 years.</p> <p><b>Detail of the Specifications mentioned in the Technical Comparative Statement</b></p> <p><b>Cost Rs. 3,15,000/-</b> <b>GST 18% Rs. 56,700/-</b> <b>G. Total Rs. 3,15,000/- + 56,700/- = Rs. 3,71,700/-</b></p>	<p>M/s. Indoam Medicos SCF 212, F.F., Sector -24-D, Chandigarh.</p> <hr/> <p><b>PCR Machine (System):</b></p> <p>Sample capacity: 96x0.2ml, Peltier Number: 8, Block material: aluminium Alloy, Temperature Range (°C), Heating Rate (°C/sec): 5, Cooling Rate (°C/sec): 4, Block Temperature Accuracy (°C): ± 0.2 of programmed Target, Control Accuracy (°C): ± 0.1 (30-99.9 °C), Uniformity (°C): ± 0.2 (30-72°C, 10s)/ ±0.3 (90°C, 10s), Control Mode: Block, Tube, Hot-lid Temperature (°C), 30-110 °C, Gradient Range (°C): 1-30°C, Gradient Temp Range (°C): 30°C-100°C, Display Screen: 8 inches, 800x600 pixels, TFT, Touch, Programs saving: 10000 files + (USB Flash), Touch Screen, Connection: USB, Ethernet, Network control, auto-open Lid, PC Control software, Input voltage: AC85-264, 47-63Hz, Input power: 600W, Footprint (DxWxH) cm: 38x24x26, Weight (Kg) 8.5, Standard Warranty 2 years.</p> <p><b>Detail of the Specifications mentioned in the Technical Comparative Statement</b></p> <p><b>Cost Rs. 3,17,500/-</b> <b>GST 18% Rs. 57,150/-</b> <b>G. Total Rs. 3,17,500/- + 57,150/- = Rs. 3,74,650/-</b></p>
---	---	--	---

Warranty	2 years	Two Years	2 Years
Delivery	With in 4 -6 weeks	With in 2 months	With in 6 to 8 weeks
Validity	90 days	3 months	90 days
Payment	With in 30 days	Within 30 days	With in 30 days
Discount	-	-	-
GST	GST 18%	GST 18%	GST 18%
<b>Total Cost</b>	<b>Rs. 3,30,400/-</b>	<b>Rs. 3,71,700/-</b>	<b>Rs. 3,74,650/-</b>

The Purchase-cum-Technical Committee of the Department of Botany, Panjab University, Chandigarh met on 10.8.2017 in the Office of the Chairperson to open the Financial Bids and EMD of the equipments to be purchased under **DBT Research Project sanctioned to Dr. S. K. Upadhyay**. The Purchase Committee unanimously recommended that the **PCR Machine (System)**: will be purchased from M/s. Ahuja Agencies, S.C.F. No. 30, Sector 15-C, Chandigarh, , who has quoted the lowest rate of **Rs. 3,30,400/- including GST** etc. and as per required specifications, as desired by the Principal Investigator.

(Harsh Nayyar)  
Chairperson

(Kamaljit Singh)  
Member

(M. C. Sidhu)  
Secretary Technical Committee

(A. N. Singh)  
Member

(S. K. Upadhyay)  
Principal Investigator



**UNDERTAKING**  
**(Point No. 21)**

A meeting of the Technical/ Purchase Committee was held on 10.8.2017 in the Office of the Chairperson, Department of Botany, Panjab University, Chandigarh. All the members of the Committee including Chairperson/ Principal Investigator do not have any personal interest in the Companies/ Agencies participating in the N.I.Q. / bid in the process.

(Harsh Nayyar)  
Chairperson

(Kamaljit Singh)  
Member

(M. C. Sidhu)  
Secretary Technical Committee

(A. N. Singh)  
Member

(S. K. Upadhyay)  
Principal Investigator

## **CERTIFICATE**

Certified that the Refrigerated Centrifuge to be purchased under (DBT) Research Project, sanction to me, Department of Botany, Panjab University, Chandigarh. The N.I.Q. of the above mentioned item (s) have been uploaded in the website of the Panjab University and remained open till the closing date and time.

(S. K. Upadhyay)  
Principal Investigator

## CERTIFICATE

Certified that the PCR Machine to be purchased **under (DBT)** Research Project, sanction to me, Department of Botany, Panjab University, Chandigarh. The N.I.Q. of the above mentioned item (s) have been uploaded in the website of the Panjab University and remained open till the closing date and time.

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

Date: \_\_\_\_\_

**Subject:** Purchase of **PCR Machine (System)** under **DBT** Research Project sanctioned to the **Dr. S. K. Upadhyay**, Department of Botany, Panjab University, Chandigarh.

1. The Technical/ Purchase Committee unanimously approved/ recommended the purchase of **PCR Machine (System)** in its **meeting held on 10.8.2017 (a copy of the proceeding is enclosed) out of Government of India, Ministry of Science & Technology, Department of Biotechnology (DBT), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “Utilizing genome editing tools for nutritional improvement in wheat” sanctioned Research Project under the budget-head- “Equipment”.**

a) Name /Brand of the Article: **(as mentioned in the quotations)**

b) Specifications: **PCR System. Model No. LA949. Gradient PCR Prima 96 (Thermal cycler)**  
Sample capacity: 96x0.2ml, Peltier Number: 8, Block material: aluminium Alloy, Temperature Range (°C), Heating Rate (°C/sec): 5, Cooling Rate (°C/sec): 4, Block Temperature Accuracy (°C):  $\pm 0.2$  of programmed Target, Control Accuracy (°C):  $\pm 0.1$  (30-99.9 °C), Uniformity (°C):  $\pm 0.2$  (30-72°C, 10s)/  $\pm 0.3$  (90°C, 10s), Control Mode: Block, Tube, Hot-lid Temperature (°C), 30-110 °C, Gradient Range (°C): 1-30°C, Gradient Temp Range (°C): 30°C-100°C, Display Screen: 8 inches, 800x600 pixels, TFT, Touch, Programs saving: 10000 files + (USB Flash), Touch Screen, Connection: USB, Ethernet, Network control, auto-open Lid, PC Control software, Input voltage: AC85-264, 47-63Hz, Input power: 600W, Footprint (DxWxH) cm: 38x24x26, Weight (Kg) 8.5. See detail mentioned in the N.I.Q./ Technical comparative Statement.

c) Name of Mfg. /Co. Distributor: (Through N.I.Q and also upload at P.U. Website).

2. The list of firms / manufacturers etc. / **(copy enclosed)**

3. Sealed Quotations were invited through the N.I.Q. from the different firms so as to reach / **received** the office / Deptt. by due date.

4. Sealed Quotation, Envelopes received within stipulated date were duly **diarized** in the Department/ Office in confirmation of their having been received within stipulated date/ time.

5. The opened envelopes and the quotations bearing signatures with date of the Purchase Committee/ Technical Committee **in its meeting held on 10.8.2017** and committee unanimously recommended the purchase of **PCR Machine (System)** on the basis of lowest rates and as per required specifications as desired by the P.I. (Copy attached).

6. The Quotations were duly opened by the Purchase Committee after affixing their signatures with date on the envelopes.

7. The Technical and Financial Comparative Statement for the purchase of PCR Machine (System) duly signed by the members of the Technical/ Purchase Committee and recommended the purchase is available (copy attached).

**It is recommended that:**

i) The purchase may be allowed under lowest quotation basis and as per required specifications as desired by the P.I. The Technical/ Purchase Committee unanimously recommended that the **PCR Machine (System)** will be purchased M/s. Ahuja Agencies, S.C.F. No. 30, Sector 15-C, Chandigarh, who has quoted the lowest rate of **Rs. 3,30,400/- including GST** etc. and as per required specifications, as desired by the Principal Investigator. The quotations were found to be suitable as per our requirements/ specifications for research.

ii) You are requested that an amount of **Rs. 3,30,400/- (including GST may kindly be sanctioned)**. The expenditure will be met from the **DBT Research Project Grant** under the budget head “**Equipment**”, where requisite provision exists.

(S.K. Upadhyay)  
Principal Investigator

F.D.O  
P.U., Chandigarh



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

Date: \_\_\_\_\_

**Subject:** Purchase of **Refrigerated Centrifuge** under **DBT** Research Project sanctioned to the **Dr. S. K. Upadhyay**, Department of Botany, Panjab University, Chandigarh.

1. The Technical/ Purchase Committee unanimously approved/ recommended the purchase of **Refrigerated Centrifuge** in its **meeting held on 10.8.2017 (a copy of the proceeding is enclosed) out of Government of India, Ministry of Science & Technology, Department of Biotechnology (DBT), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “Utilizing genome editing tools for nutritional improvement in wheat” sanctioned Research Project under the budget-head- “Equipment”**.
  - a) Name /Brand of the Article: **(as mentioned in the quotations)**
  - b) Specifications: **High speed Refrigerated Centrifuge Machine** CE certified with some of the main features as below. Model No. CPR-24 Plus with Rotor for 24x1.5 ml for use up to 20000 RPM and suitable voltage stabilizer for use with the machine. Maximum speed up to 20000 RPM, Maximum RCF 37570, Temperature range ambient to – 8°C with sample temp less than 4°C at maximum speed, Maintenance free brushless induction motor Full metallic body with rust proof steel inner chamber. Automatic rotor recognition and Imbalance detector with cut off is provided. 4' LCD display alpha numeric with display of Rpm, Rcf, time and temp. smooth low noise model etc. See detail mentioned in the N.I.Q./ Technical comparative Statement.
  - c) Name of Mfg. /Co. Distributor: (Through N.I.Q and also upload at P.U. Website.
2. The list of firms / manufacturers etc. / **(copy enclosed)**
3. Sealed Quotations were invited through the N.I.Q. from the different firms so as to reach / **received** the office / Deptt. by due date.
4. Sealed Quotation, Envelopes received within stipulated date were duly **diarized** in the Department/ Office in confirmation of their having been received within stipulated date/ time.
5. The opened envelopes and the quotations bearing signatures with date of the Purchase Committee/ Technical Committee **in its meeting held on 10.8.2017** and committee unanimously recommended the purchase of **Refrigerated Centrifuge** on the basis of lowest rates and as per required specifications as desired by the P.I. (Copy attached).
6. The Quotations were duly opened by the Purchase Committee after affixing their signatures with date on the envelopes.
7. The Technical and Financial Comparative Statement for the purchase of Refrigerated Centrifuge duly signed by the members of the Technical/ Purchase Committee and recommended the purchase is available (copy attached).

**It is recommended that:**

- i) The purchase may be allowed under lowest quotation basis and as per required specifications as desired by the P.I. The Technical/ Purchase Committee unanimously recommended that the **Refrigerated Centrifuge** will be purchased M/s. Ahuja Agencies, S.C.F. No. 30, Sector 15-C, Chandigarh, who has quoted the lowest rate of **Rs. 3,47,982/- including GST** etc. and as per required specifications, as desired by the Principal Investigator. The quotations were found to be suitable as per our requirements/ specifications for research.
- ii) You are requested that an amount of **Rs. 3,47,982/- (including GST) may kindly be sanctioned**. The expenditure will be met from the **DBT Research Project Grant** under the budget head “**Equipment**”, where requisite provision exists.

(S.K. Upadhyay)  
Principal Investigator

F.D.O  
P.U., Chandigarh

As discussed with M/s Himalaya Scientific House, SCF-6 1<sup>st</sup> Floor, Sector 15-C, Chandigarh-160 015, who has already supplied **Plant Growth Chamber** for **Rs. 3,37,219/-** and the same has been approved by the Director, Research Promotion Cell, P.U., Chandigarh at a total cost of Rs. 3,37,219/- vide No. GP/375/A dated 16.6.2017.

M/s Himalaya Scientific House has agreed to supply us (**Plant Growth Chamber**) on repeat order basis with the same terms & conditions and cost i.e. **Rs. 3,37,219/-**

The members of the Technical/ Purchase Committee of the Department have already been recommended in its meeting held on 19.07.2017 that the equipment will be purchased according to Panjab University Accounts Manual 2012 Page No. 198 Para 27.14.10 (Repeat Order).

You are requested that an amount of **Rs. 3,37,219/-** may kindly be sanctioned for the said **equipment**. The expenditure will be met from the **DBT Research Project Grant** under the budget head "**Equipment**", where requisite provision exists.

(S. K. Upadhyay)  
Principal Investigator

August 16, 2017



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)  
E-mail: skupadhyay@pu.ac.in

Ref. No. \_\_\_\_/SKU/Bot

Date: July 4, 2017

The Cargo Manager,  
New Delhi

**Subject :** Authority letter in favour of M/s. Mediconcepts Health Care Pvt. Ltd. 207, Jeevan Nagar, Opp. Maharani Bagh, New Delhi-110 014

Dear Sir,

We hereby authorize to M/s. Mediconcepts Health Care Pvt. Ltd. 207, Jeevan Nagar, Opp. Maharani Bagh, New Delhi-110 014 to clear our import shipment (**Vide AWB No. \_\_\_\_\_(HAWB No. \_\_\_\_\_) dated \_\_\_\_\_.**

We also authorize them to do all kind custom formalities on our behalf and to sign all custom related and Airline related documents our behalf.

We request you to handover the Delivery Order to them.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)  
E-mail: skupadhyay@pu.ac.in

The Deputy Commissioner of Customs,  
IGI Airport, Cargo terminal,  
New Delhi.

Ref. No. \_\_\_\_/SKU/Bot

Date: \_\_\_\_\_

**Subject: No Objection Certificate (NOC) and Authority letter in favour of M/s. Health Care Pvt. Ltd. 207, Jeevan Nagar, Opp. Maharani Bagh, New Delhi-110 014.**

Dear Sir,

We have **No Objection** and hereby authorize to M/s. Mediconcepts Health Care Pvt. Ltd. 207, Jeevan Nagar, Opp. Maharani Bagh, New Delhi-110 014 to clear our import shipment (**Vide AWB No. \_\_\_\_\_(HAWB No. \_\_\_\_\_) dated \_\_\_\_\_.**

We also authorize them to act as a Customs House Agent and to do all kind custom formalities on our behalf.

We also authorize them to sign all custom related Airline related documents our behalf.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator





## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

Bio-data of the candidates for the position of **Junior Research Fellow (JRF)/ Research Fellow** in the Government of India, Ministry of Science & Technology, Department of Biotechnology (DBT), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi sanctioned Research Project on “**Utilizing genome editing tools for nutritional improvement in wheat**” for three years at a monthly fellowship for JRF @ Rs 25,000/- fixed p.m. + HRA for first 2 years and Rs. 28,000/- fixed p.m. + HRA for 3<sup>rd</sup> year and for Research Fellow @ Rs. 14000/- p.m. (fixed).

Sr. No.	Name of the Candidate	Father's Name	Date of Birth	Qualifications	NET/NET Lecturer-ship qualified /PU Entrance Test Qualified	Experience	Criteria of selection Marks			Attendance	Remarks
							B.Sc= 10 M.Sc= 10 (A) Total = 20	Inter-view=10 (B) Total=10	Total A+B=30		
1.	Himanshu	Sh. Vinod Kumar Sharma	5.3.1994	B.Tech. 73.01% M.Tech. 8.97 (CGPA)	Nil	Nil	16.27				
2.	Shiksha Devi	Sh. Pawan Kumar	12.4.1993	B.Sc. 63.7% % M.Sc. 70.7%%	Nil	Nil	13.44				
3.	Ruchika Kumari	Sh. Kanshi Ram		B.Sc. 67.5% M.Sc. 74.15%	NET qualified Certified is not attached	Nil	14.16				
4.	Gagandeep Kaur	Sh. Rajinder Singh	26.11.1986	B. Tech. 75.90 % M.Tech. Final result copy not attached	Nil	-					<b>Not Eligible</b>

(Prof. Rupinder Tewari)  
Director Research nominee

(Harsh Nayyar)  
Chairperson

(Sunita Kapila)  
Member

(Promila Pathak)  
Member

(S. K. Upadhyay)  
Principal Investigator



## PROCEEDINGS OF THE SELECTION COMMITTEE

24.8.2017

A meeting of the Selection Committee was held on **24.8.2017 at 12.30 p.m.** in the Department of Botany, Panjab University, Chandigarh to recommend suitable candidate for appointment of **Junior Research Fellow (JRF)** under the Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi sanctioned Research Project on “**Utilizing genome editing tools for nutritional improvement in wheat**” for three years.

The Selection Committee comprised the following:

1. Prof. Rupinder Tewari, (Director, Research Promotion Cell's, nominee)
2. Prof. Harsh Nayyar, Chairperson, Department of Botany, P.U., Chandigarh
3. Prof. Sunita Kapila, Member
4. Prof. Promila Pathak, Member
5. Dr. S. K. Upadhyay, Principal Investigator

The Committee scrutinized the applications and other documents and interviewed the candidates individually. The unanimous recommendations of the Committee are as under:

Selected:

Junior Research Fellow (JRF):

1. \_\_\_\_\_ at Sr. No. \_\_\_\_ of the list attached). The candidate is M. Tech. having Post Graduate Degree in Professional Course as per DBT rules (Funding Agency) and the fellowship will be given to the selected candidate @ Rs 25,000/- fixed p.m. + HRA for first 2 years and Rs. 28,000/- fixed p.m. + HRA for 3<sup>rd</sup> year.

The appointment of JRF is made on purely temporary basis till the tenure of the research project.

(Prof. Rupinder Tewari)  
Director, Research  
Promotion Cell's Nominee

(Prof. Harsh Nayyar)  
Chairperson

(Prof. S. Kapila)  
Member

(Prof. P. Pathak)  
Member

(Dr. S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estded. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

Director  
Research Promotion Cell  
Panjab University,  
Chandigarh

☎ (91) (0172) 2534001 (Off.)  
E-mail: skupadhyay@pu.ac.in

Ref. No. \_\_\_\_ /SKU/Bot  
Date: \_\_\_\_\_

Through: The Finance and Development Officer, P.U., Chandigarh.

Sir,

Please find enclosed herewith the proceedings of the Selection Committee, which met on 24.8.2017 at 12.30 p.m. in the Department of Botany, Panjab University, Chandigarh to recommend suitable candidate for the appointment of **Junior Research Fellow (JRF)** under the Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi sanctioned Research Project on “Utilizing genome editing tools for nutritional improvement in wheat” for three years.

With kind regards,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator

- Encls: 1. Proceedings of the Selection Committee  
2. Comparative Statement of the candidates  
3. Approval of the Selection Committee  
4. Advertisement Notice and Registered Post list  
5. Applications of the candidates

**Attendance of Junior Research Fellows (JRF)** under the Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi sanctioned Research Project on **“Utilizing genome editing tools for nutritional improvement in wheat”** for three years.

**24.8.2017**

<b>Sr. No.</b>	<b>Name of the Candidate</b>	<b>Signature</b>
1	Gagandeep Kaur	
2.	Himanshu	
3.	Shiksha Devi	
4.	Ruchika Kumari	

# ADVERTISEMENT

## Positions Vacant

Applications on plain paper are invited for the following temporary position in a research project sanctioned by the Government of India, Ministry of Science & Technology, Department of Biotechnology (DBT), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “**Utilizing genome editing tools for nutritional improvement in wheat**” for three years.

### **Technical Staff:**

**Junior Research Fellow:** one @ Rs 25,000/- fixed p.m. + HRA for first 2 years and Rs. 28,000/- fixed p.m. + HRA for 3<sup>rd</sup> year.

**Non-NET** candidate may be considered for appointment as Research Fellow @ Rs. 14000/- p.m. (fixed), if the NET-qualified candidates are not available.

### Eligibility conditions:

**Junior Research Fellow:** M.Sc. (Botany/ Biotechnology/ Biochemistry/ M. Tech in Biotechnology) with 55% marks and preference will be given to those, who have qualified CSIR-NET / SLET /PU Ph.D. Entrance test or equivalent test qualified in life sciences.

### **Desirable qualification/ skills:**

(i) Should have knowledge and skills for data mining in biological sequence database and, sequence analysis tools/ packages. (ii) Should have knowledge in basic molecular biology techniques.

### **Age Limit:**

28 years which is relaxed up to 5 years in the case of candidates belonging to Schedule Castes/ Schedule Tribes, Women, Physically Handicapped and OBCs etc?

### Terms & Conditions:

- The positions are co-terminus with the completion of the Research Project or even before (at one month notice, if the work and conduct is not found satisfactory).

### How to apply:

Applications on plain paper giving following details must reach the **undersigned latest by the August 8, 2017.**

*Name, Parents' name, postal address, e.mail address and cell-phone number for communication; academic career with details of 10<sup>th</sup>, 10+2, B.Sc. M.Sc. and M.Phil (if applicable), CSIR-NET/SLET/PU Ph.D.-Entrance Test with supporting documents, research publications, experience certificates.*

- Digital application (in pdf format) can also be sent by e.mail (**skupadhyay@pu.ac.in**).
- The hard copy can be brought and submitted at the time of interview, in case of digital application along with all testimonials and original documents.
- No TA/ DA is applicable for attending the interview.
- The selected candidate shall be governed by DBT and / or Panjab University Rules and Regulations.

**Kindly put on the Notice Board.**

(S. K. Upadhyay)  
Principal Investigator

## PROCEEDINGS OF THE SELECTION COMMITTEE

24.8.2017

A meeting of the Selection Committee was held on **24.8.2017 at 12.30 p.m.** in the Department of Botany, Panjab University, Chandigarh to recommend suitable candidate for appointment of **Junior Research Fellow (JRF)** under the Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi sanctioned Research Project on “**Utilizing genome editing tools for nutritional improvement in wheat**” for three years.

The Selection Committee comprised the following:

1. Prof. Rupinder Tewari, (Director, Research Promotion Cell's, nominee)
2. Prof. Harsh Nayyar, Chairperson, Department of Botany, P.U., Chandigarh
3. Prof. Sunita Kapila, Member
4. Prof. Promila Pathak, Member
5. Dr. S. K. Upadhyay, Principal Investigator

The Committee scrutinized the applications and other documents and interviewed the candidates individually. The unanimous recommendations of the Committee are as under:

Selected:

Junior Research Fellow (JRF):

1. \_\_\_\_\_ at Sr. No. \_\_\_\_ of the list attached). The candidate is M. Tech. having Post Graduate Degree in Professional Course as per DBT rules (Funding Agency) and the fellowship will be given to the selected candidate @ Rs 25,000/- fixed p.m. + HRA for first 2 years and Rs. 28,000/- fixed p.m. + HRA for 3<sup>rd</sup> year.

The appointment of JRF is made on purely temporary basis till the tenure of the research project.

Prof. Sunita Kapila could not attend the meeting.

(Prof. Rupinder Tewari)  
Director, Research  
Promotion Cell's Nominee

(Prof. Harsh Nayyar)  
Chairperson

(Prof. P. Pathak)  
Member

(Dr. S. K. Upadhyay)  
Principal Investigator



**PANJAB UNIVERSITY**

**DEPARTMENT OF BOTANY**

**CHANDIGARH - 160 014**

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**



M/s. Ahuja Agencies  
S.C.F. No. 30, Sector 15-C  
Chandigarh

Dear Sir,

This refers to your Quotation No. AA/2017-18/10130 dated 5.8.2017. Your quotation has been approved by the authority for the Supply of the following:

PCR System: PCR System. Model No. LA949-1No. Gradient PCR Prima 96 (Thermal cycler).

**Specifications:**

Sample capacity: 96x0.2ml, Peltier Number: 8, Block material: aluminium Alloy, Temperature Range (°C), Heating Rate (°C/sec): 5, Cooling Rate (°C/sec): 4, Block Temperature Accuracy (°C):  $\pm 0.2$  of programmed Target, Control Accuracy (°C):  $\pm 0.1$  (30-99.9 °C), Uniformity (°C):  $\pm 0.2$  (30-72°C, 10s)/  $\pm 0.3$  (90°C, 10s), Control Mode: Block, Tube, Hot-lid Temperature (°C), 30-110 °C, Gradient Range (°C): 1-30°C, Gradient Temp Range (°C): 30°C-100°C, Display Screen: 8 inches, 800x600 pixels, TFT, Touch, Programs saving: 10000 files + (USB Flash), including Power- off Recover, Temperature time increase/ decrease progressively, Pause function, Edit File While Running, Support for USB Mouse, support for Touch Screen, Connection: USB, Ethernet, Network control, auto-open Lid, PC Control software, Input voltage: AC85-264, 47-63Hz, Input power: 600W, Footprint (DxWxH) cm: 38x24x26, Weight (Kg) 8.5, Standard Warranty 2 years.

You are requested to supply the above mentioned item **PCR System: PCR System. Model No. LA949-1No. Gradient PCR Prima 96 (Thermal cycler) (quantity One No.)** as per the above mentioned specifications or mentioned in your quotation at the earliest. As per term and conditions we will arrange the payment. You are further requested that a bill in duplicate may also be sent for payment.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

E-mail: skupadhyay@pu.ac.in

M/s. Ahuja Agencies  
S.C.F. No. 30, Sector 15-C  
Chandigarh

Ref. No. \_\_\_\_ /SKU/Bot

Date: \_\_\_\_\_

Dear Sir,

This refers to your Quotation No. AA/2017-18/10129 dated 5.8.2017. Your quotation has been approved by the authority for the Supply of the following:

High speed Refrigerated Centrifuge Machine Model No. CPR-24 Plus with Rotor for 24x1.5 ml for use up to 20000 RPM and suitable voltage stabilizer.

Specifications:

**High speed Refrigerated Centrifuge Machine** CE certified with some of the main features as below. Model No. CPR-24 Plus with Rotor for 24x1.5 ml for use up to 20000 RPM and suitable voltage stabilizer for use with the machine. Maximum speed up to 20000 RPM, Maximum RCF 37570 Temperature range ambient to – 8°C with sample temp less than 4°C at maximum speed. Maintenance free brushless induction motor Full metallic body with rust proof steel inner chamber. Automatic rotor recognition and Imbalance detector with cut off is provided. 4' LCD display alpha numeric with display of Rpm, Rcf, time and temp. smooth low noise model Facility for pre-cooling before run. Other additional such as 99 programmes, self diagnostic of errors, inverter fault detection with auto shut down, CFC free refrigeration system, emergency lid lock release. Detailed specifications as per attached literature. To work on 220 Volts. AC., 50 Hz single phase, can be supplied as above with rotor heads for 1.5 ml for speed upto 20000 RPM, 15 ml and 50 ml with max speed upto 16000 RPM along with standard accessories.

You are requested to supply the above mentioned item High speed Refrigerated Centrifuge Machine Model No. CPR-24 Plus with Rotor for 24x1.5 ml for use up to 20000 RPM and suitable voltage stabilizer (quantity One No.) as per the above mentioned specifications or mentioned in your quotation at the earliest. As per term and conditions we will arrange the payment. You are further requested that a bill in duplicate may also be sent for payment.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)

Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

E-mail: skupadhyay@pu.ac.in

Ref. No. \_\_\_\_\_/SKU/Bot

Date: \_\_\_\_\_

M/s. Himalaya Scientific House  
SCF-6 1<sup>st</sup> Floor, Sector 15-C  
Chandigarh-160 015

Dear Sir,

This refers to your Quotation No. 4489 dated 10.5.2017 for the purchase of **Plant Growth Chamber @ Rs. 3,37,219/-**. Your quotation has already been approved by the Director RPC vide No. GP/375/A dated 16.6.2017 for the above said item.

### **Plant Growth Chamber:**

#### **Specifications:**

**Chamber Construction:** Floor standing, **Capacity:** ≥300 Liter, **Temperature range:** 5 °C to + 60 °C with an accuracy of +/- 1°C, **Humidity range:** 30% RH to 98% RH with sensitivity of +/- 3%, **Illumination:** Automatic Clock based Light / Dark control system comprising of fluorescent lights. **Test Cycles:** Multiple Settable Cycles Control system with memory to preset test cycles as per requirements. **Data memory & print:** Pendrive Interface for easy logging data transfer to PC

**Display** 1,00,000 Data Logging Readings. Data Logging with data memory & optional added Thermal printer facility.

**Controller** Microprocessor/Microcontroller based Controller. **Pendrive Data Collection:** Pendrive Interface for easy logging data transfer to PC. **Alarms:** Customized alarm system to warn various parameters, such as Low/High Temperature, Low/High Humidity, Low Water, Door Open, etc. **Outer Panels:** Outer panels are made of High Grade Stainless Steel Sheet Grade 304, **Interior Panels:** Interior panels are made of High Grade Stainless Steel Sheet Grade 304, **Door:** Standard hinged door with Double gasket seal between the door and the cabinet to prevent any temperature/Humidity loss thus increases system efficiency. **Insulation:** Polyurethane foam insulation with a thickness of 50mm or more. **Shelves/Trays:** Perforated Stainless steel Trays. (As per requirements). Stainless steel trays lift out for easy cleaning. **Reservoir drain:** Recessed Reservoir drain, with convenient drain hose, is easily accessible and a screened based prevents rodent infestation. **Castors:** Castors for minimal effort mobility.

**Refrigeration system:** Superior refrigeration system with optional Backup refrigeration system. Uniform refrigeration is maintained through the use of air-cooled, high torque, hermetically sealed condensing unit. High quality cooling system components include: efficient fan circulation evaporator coil with thermal expansion valve, moisture-liquid indicator, filter drier, heat exchanger, and pressure control valve. All refrigerant lines are copper and fully insulated.

**Compressor:** Heavy duty Air-cooled compressor. The compressor is distinguished by its excellent performance, low noise level (<60dB) and minimal vibration.

**Condenser:** Highly efficient condenser with automatic condensate evaporating system. **Evaporator:** Internal evaporator system Forced draught. **Refrigerant:** Non-CFC/HCFC environmental friendly based on compressor capacity.

**Air Circulation:** Forced air circulation to maintain chamber uniformity.

**Humidity System:** Unique forced air circulation design maintains an even, continuous, moist airflow throughout the cabinet. Perforated trays further enhance even humidity distribution to testing samples. Self-contained stainless steel water reservoir in each chamber assures a relative humidity of 98%.

**Control System Advanced;** The advanced control system features robust PID Controllers with process control settings or micro-controller/Micro-processor based Control system. The control system has various optional features such as: 7 inches TFT Coloured LCD display with TOUCH Screen. Multiple Profile - User can split the Day & night settings in 10 different segments. Multi user Programs with name feeding, thus user can select the test via selecting just the Name of the test. PC - software to easily access the data received from Pendrive, Real Time Clock. More than **1,00,000** Data Logging Readings storage Capacity, Dual PID control with advance Alogirthm. Printer Report Program, Data Acquisition Program, Timer, Light control, Adjustable alarm limits, Process cycle settings etc. customized to meet end user requirements.

**Power Supply:** 220 volts, 50Hz

You are requested to supply the above mentioned item **Plant Growth Chamber (quantity One No.)** as per above mentioned specifications or mentioned in your quotation at the earliest. As per the same term and conditions which was supplied by you to the Department of Botany, Panjab University, Chandigarh and accordingly we will arrange the payment. You are further requested that a bill in duplicate may also be sent for payment.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**September 22, 2017**

Director  
Research Promotion Cell  
Panjab University  
Chandigarh

Through: Finance and Development Office, P.U., Chandigarh.

Sir,

I am planning to visit Dehradun, Mussoorie and its adjoining area from **October 1-4, 2017** for the collection of research material of my research project sanctioned by the Department of Science and Technology, Ministry of Science and Technology (**DST-INSPIRE**), New Delhi on "Identification, Isolation, and characterization of novel insecticidal proteins from lower plant diversity".

You are requested to kindly accord sanction to visit the above mentioned place by taxi/ own car and also allow us to draw T.A., D.A and local travel as per rules. The expenditure on this will be met out of the budget head "Travel" grant of the **DST-INSPIRE project**, where the budget provision exists.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)  
E-mail: [skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)

**Ref. No. 231A/SKU/Bot**

**Date: 19.9. 2017**

Mr. Himanshu Sharma  
Department of Botany  
Panjab University  
Chandigarh

This refers to your application for the fellowship of Junior Research Fellow in the Government of India, Ministry of Science & Technology, Department of Biotechnology (DBT), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi sanctioned Research Project on “Utilizing genome editing tools for nutritional improvement in wheat”.

I am pleased to inform you that the Director Research Promotion Cell has approved your appointment vide letter No. 2004/GP dated 19.9.2017 as a JRF, you will be paid fellowship @ Rs. 25,000/- p.m. (fixed) + HRA.

Your appointment is purely on temporary basis till the tenure of the Research Project. You will be governed by the rules and regulations of DBT/ Panjab University. You are advised to report the undersigned to join the fellowship at the earliest.

It is understood that there will be no financial liability on the part of the University, whatsoever, on this account, now or any time in future after the termination of the present Research Project. You shall have no claim whatsoever for the regularization of services and the payment will be made only as per the receipt of the grants from the DBT.

(S. K. Upadhyay)  
Principal Investigator

20.9.2017

Dr. S. K. Upadhyay  
Principal Investigator  
Department of Botany  
Panjab University,  
Chandigarh

Subject: Joining report for the fellowship of Junior Research Fellow (JRF) in the **(DBT)** Research project.

Sir,

Thank you very much for your letter No. 231A/SKU/Bot dated 19.9.2017 informing that the Director Research Promotion Cell has approved my appointment as Junior Research Fellow (JRF) @ Rs. 25,000/- p.m. (fixed) + HRA vide No. 2004/GP dated 19.9.2017 in the Government of India, Ministry of Science & Technology, Department of Biotechnology **(DBT)**, Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi sanctioned Research Project on "Utilizing genome editing tools for nutritional improvement in wheat".

I gratefully accept the above said Fellowship and assure you Sir that I shall try to come up to your expectation.

As desired by you, I am joining the duty w.e.f. 20.9.2017 (F.N.)

With kind regards,

Yours faithfully,

(Himanshu Sharma)  
Junior Research Fellow  
Department of Botany  
Panjab University,  
Chandigarh



October 23, 2017

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

A research project has been sanctioned by the Ministry of Science and Technology (DST- INSPIRE), New Delhi has sanctioned a research project on "Identification, Isolation, and characterization of novel insecticidal proteins from lower plant diversity" under my charge. The grant has already been released by the Ministry for the year 2017-2018) and detail of head-wise is given below:

- |                                   |                |
|-----------------------------------|----------------|
| 1. Previous Balance is available: | Rs. 58,987/-   |
| 2. Grant Received                 | Rs. 5,91,013/- |

---

G. Total Rs. 6,50,000

- |                 |            |
|-----------------|------------|
| 1. Consumable:  | 5,60,000/- |
| 2. Contingency: | 20,000/-   |
| 3. Travel:      | 35,000/-   |
| 4. Over-head:   | 35,000/-   |

---

Rs. 6,50,000/-

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

E-mail: [skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)

The Vice-Chancellor  
Panjab University  
Chandigarh

Ref. \_\_\_\_\_

Date: \_\_\_\_\_

**Through: Dean of University Instruction, Panjab University, Chandigarh**

Sir,

It is my pleasure to inform you that **The National Academy of Agricultural Sciences** has decided to invite me to join the Academy **as Associate** from 1<sup>st</sup> January 2018 (copy attached). NAAS Associates was introduced during the year 2002-03 for encouraging promising **Young Scientists** below 40 years age group to be associated with the Academy activities. This is to bring to your kind notice that I have received this honour at the age of 33 years.

It is also to inform you that one of my Ph. D. student **Ms. Shivi Tyagi** has been **Awarded NASI-Springer Award** in Biological Sciences from **The National Academy of Sciences, India** (copy attached). It is a prestigious award given to the **Young Bright Researcher**. This Award has been started from the year 2015 by NASI.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**December 20, 2017**

Director  
Research Promotion Cell  
Panjab University  
Chandigarh

Through: Finance and Development Office, P.U., Chandigarh.

Sir,

I am planning to visit Narkanda (Himachal Pradesh) and adjoining area from December 23-26, 2017 for the collection of research material of my research project sanctioned by the Ministry of Science & Engineering Research Board (**SERB**), 5 & 5A, Lower Ground Floor, Vasant Square Mall, Sector-B, Pocket-5, Vasant Kunj, New Delhi on “**Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)**”.

You are requested to kindly accord sanction to visit the above mentioned place by own car/ Taxi and also allow us to draw T.A., D.A and local travel as per rules. The expenditure on this will be met out of the budget head “Travel” grant of the **SERB Research Project**, where the budget provision exists.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator

**UNDER REGISTERED POST**

**For the purchase of \_\_\_\_\_**

M/s. Ahuja Agencies  
S.C.F. No. 30, Sector 15-C  
Chandigarh

M/s Himalaya Scientific House  
SCF-6 1<sup>st</sup> Floor  
Sector 15-C  
Chandigarh-160 015

M/s. Max Electronics (India)  
Plot No. 25/6, Phase-II  
Industrial Area  
Chandigarh

M/s. Vallabh Scientific Corporation  
SCO 63, 2<sup>nd</sup> Floor  
Sector – 32  
Chandigarh

M/s. Thermo Fisher Scientific  
Kripa Nagar (Chandigarh Road)  
Ambala City-134007  
Haryana

M/s Lab Matric Inc  
S-98, Okhla Industrial Area, Phase-II  
New Delhi-110 020

M/s. Agilent Technologies India Pvt. Ltd.  
DLF Info City Developers Chandigarh Ltd  
Ground Floor, Tower-D, Plot No. 2  
DLF IT Park, Kishan Garh, Chandigarh-160101

M/s Bhartiya Chemical Traders  
SCO 159 (1<sup>st</sup> Floor), Sector 24-D  
Chandigarh

M/s. Nu Tek Instruments  
6, B.R. Complex, C-32,  
Patparganj (Opp. Una Enclave)  
Mayur Vihar-I  
Delhi-91



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**January 12, 2018**

M/s. Eurofins Genomics India Pvt. Ltd.  
# 540/1, Doddanakundi Industrial Area  
Hoodi, Whitefield  
Bangalore-560048 (Karnataka)

Dear Sir,

Kindly supply the following item(s) and also send a bill in duplicate to the under signed for payment. Special discount for Universities /Institutions may please be mentioned in your bill.

1. Oligo-10nm (HPSF):           Quantity:    1765 Nos.

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**January 20, 2018**

## GATE PASS

It is certified that **Plant Growth Chamber** is being sent for repair from Botany Department to M/s. Rescholar Equipment, 85, Industrial Estate, Ambala Cantt. (GST No. 06ADJPG937217120). This should be allowed to taken out of Department/ University Gate for the purpose mentioned above.

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

The Vice-Chancellor  
Panjab University,  
Chandigarh

Ref. \_\_\_\_\_

Date: \_\_\_\_\_

Through: The Finance and Development Officer, P.U., Chandigarh.

Sir,

I have sanctioned Two research projects by **1)** Science & Engineering Research Board, Department of Science and Technology (**DST**), New Delhi on “Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)” **and 2)** Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “Utilizing genome editing tools for nutritional improvement in wheat”.

I wish to buy a few laboratory items i.e. A.C. and Chemicals & Glassware etc. for Research Lab.

You are requested to kindly allow me to purchase the above mentioned items. It is also requested that an **amount of Rs. 60,000/- (approximate)** may kindly be sanctioned **out of the funds provided by the** Science & Engineering Research Board, Department of Science and Technology (**DST**) **and** Department of Biotechnology (**DBT**), New Delhi for research under my charge out of the budget head “**Overhead charges**” where the budget provision exists.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



**PANJAB UNIVERSITY**  
**DEPARTMENT OF BOTANY**  
**CHANDIGARH - 160 014**

(Estded. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

The Vice-Chancellor  
Panjab University,  
Chandigarh

Ref. \_\_\_\_\_

**Date:** \_\_\_\_\_

Through: The Finance and Development Officer, P.U., Chandigarh.

Sir,

I have sanctioned a research project by the Department of Science and Technology (**DST- INSPIRE**), New Delhi on Identification, Isolation and characterization of Novel Insecticidal proteins from lower plant diversity”.

I wish to buy a few laboratory items i.e. Chairs, Tables, Table glass etc. for Research Lab.

You are requested to kindly allow me to purchase the above mentioned items. It is also requested that an **amount of Rs. 39,000/- (approximate)** may kindly be sanctioned **out** of the funds provided by the Department of Science and Technology (**DST-INSPIRE**) New Delhi for research under my charge out of the budget head “**Overhead charges**” where the budget provision exists.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator





# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Director  
Research Promotion Cell  
Panjab University,  
Chandigarh

Ref. \_\_\_\_\_

Date: \_\_\_\_\_

Through: The Assistant Registrar (Accounts G&P) Panjab University, Chandigarh.

Dear Madam,

I have been sanctioned a research project by the Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “Utilizing genome editing tools for nutritional improvement in wheat”.

As desired by the DBT, I am enclosing herewith a Memorandum of Agreement (**MoA**) which will be signed between the Department of Biotechnology and the Grantee Institution on Non-Judicial Stamp Paper. You are requested to sign the above mentioned documents so that the next instalment of the grant can be release by the DBT at the earliest.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estded. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**Date:** \_\_\_\_\_

Proposed Research Advisory committee for Mr. Alok Sharma, Ph.D. student new enrolment for the approval of Academic and Administrative Committee of the Department of Botany, P.U., Chandigarh

Members proposed for RAC:

1. Dr. S. K. Upadhyay (supervisor and convener), Department of Botany, P.U., Chandigarh.
2. Prof. Rakesh Tuli, Senior Research Advisor, UIET
3. Prof. Promila Pathak, Department of Botany, P.U., Chandigarh
4. Dr. Kasmir Singh, Department of Biotechnology

(S. K. Upadhyay)

Date: 3.5.2018



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**May 22, 2017**

Director  
Research Promotion Cell  
Panjab University  
Chandigarh

Through: Finance and Development Office, P.U., Chandigarh.

Madam,

I am planning to visit IARI, DST (SERB), DBT and CSIR, New Delhi from June 3-7, 2018 for Project Research work sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)".

You are requested to kindly accord sanction to visit the above mentioned places by taxi/ own car and also allow us to draw T.A., D.A and local travel as per rules. The expenditure on this will be met out of the budget head "Travel" grant of the **SERB Project**, where the budget provision exists.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

The Assistant Registrar (Accounts G&P)  
Panjab University  
Chandigarh.

Ref. \_\_\_\_\_

**May 24, 2017**

Dear Sir,

With reference to the letter received from the Department of Science and Technology, Ministry of Science and Technology (**DST- INSPIRE**), New Delhi regarding to refund an unspent balance of **Rs.29,722/-** through Demand Draft in favour of the Secretary, Department of Science and Technology, Ministry of Science and Technology (**DST- INSPIRE**), New Delhi. The unspent balance **Rs. 29,722/-** pertains to the research project "Identification, Isolation, and characterization of novel insecticidal proteins from lower plant diversity" sanctioned to me by the above mentioned ministry.

It is requested that the balance amount of Rs. **29,722/-** may be sent immediately to the Secretary, Department of Science and Technology, Ministry of Science and Technology (**DST- INSPIRE**), New Delhi with intimation to the undersigned.

An early action in the matter will be highly appreciated.

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator

The Vice-Chancellor  
Panjab University,  
Chandigarh

Through: The Finance and Development Officer, P.U., Chandigarh.

Sir,

I have sanctioned a research project by the Department of Science and Technology **(DST- INSPIRE)**, New Delhi on Identification, Isolation and characterization of Novel Insecticidal proteins from lower plant diversity”.

I wish to buy a few laboratory items i.e. Chairs, Tables, Table glass etc. for Research Lab.

You are requested to kindly allow me to purchase the above mentioned items. It is also requested that an **amount of Rs. 39,000/- (approximate)** may kindly be sanctioned **out** of the funds provided by the Department of Science and Technology **(DST-INSPIRE)** New Delhi for research under my charge out of the budget head **“Overhead charges”** where the budget provision exists.

Thanking you,

Yours faithfully,



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**October 15, 2018**

Director  
Research Promotion Cell  
Panjab University  
Chandigarh

Through: Finance and Development Office, P.U., Chandigarh.

Madam,

I am planning to attend the 4<sup>th</sup> International Plant Physiology Congress held from December 2-5, 2018 at CSIR-NBRI, Lucknow, U.P. This conference would cover major areas of our research project, which is sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)".

You are requested to kindly allow me to attend the above said conference. I am travelling by Train from Chandigarh to Lucknow and back and local travel by taxi. Kindly permission may please be granted to draw T.A., D.A and local travel as per rules. The expenditure on this will be met out of the budget head "Travel" grant of the **SERB Project**, where the budget provision exists.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

E-mail: [skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)

The Vice-Chancellor  
Panjab University  
Chandigarh

Ref. \_\_\_\_\_

Date: \_\_\_\_\_

**Through: Dean of University Instruction, Panjab University, Chandigarh**

Sir,

It is my pleasure to inform you that in recognition of my contributions in '**Plant Improvement**', **The National Academy of Agricultural Sciences** has selected me for its "**Young Scientist Award**" for the Biennium 2017-2018. The Award consists of a citation and a gold plated silver medal and will be presented at the Inaugural Session of the XIV Agricultural Science Congress, which is scheduled to be held at IARI/NASC Complex, New Delhi during February 20-23, 2019 (copy enclosed)

This is to bring to your kind notice that I have received this honour at the age of 34 years.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)

October 23, 2018

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

A research project has been sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)" under my charge. The grant has already been released by the Ministry for the year 2018-2019) and detail of head-wise is given below:

1. Previous Balance is available (Recurring)	Rs. 29,769/-
2. Equipment (Non Recurring)	Rs. 1,597/-
2. Grant Received	Rs. 8,50,000/-

---

G. Total Rs. 8,81,366/-

1. Manpower:	3,33,000/-
2. Contingency:	12,000/-
3. Travel:	10,000/-
4. Consumable:	4,00,663/-
5. Equipment	1,597/-
6. Over-head:	1,24,106/-

---

Rs. 8,81,366/-

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator





# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

**November 22, 2018**

## GATE PASS

It is certified that **Electrophorsis Power Supply** is being sent for repair from Botany Department to M/s. Himalaya Scientific House, S.C.F. 6, Sector 15-C, Chandigarh. This should be allowed to taken out of Department/ University Gate for the purpose mentioned above.

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**December 20, 2018**

Director  
Research Promotion Cell  
Panjab University  
Chandigarh

Through: Finance and Development Office, P.U., Chandigarh.

Sir,

I am planning to visit Dehradun, Mussoorie and its adjoining area from **December 26-29, 2018** for the collection of research material of my research project sanctioned by the Ministry of Science & Engineering Research Board (**DST-SERB**), 5 & 5A, Lower Ground Floor, Vasant Square Mall, Sector-B, Pocket-5, Vasant Kunj, New Delhi on “Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)”.

You are requested to kindly accord sanction to visit the above mentioned place by taxi/ own car and also allow us to draw T.A., D.A and local travel as per rules. The expenditure on this will be met out of the budget head “Travel” grant of the **DST- SERB project**, where the budget provision exists.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**January 15, 2019**

Dean Research  
Research Promotion Cell  
Panjab University  
Chandigarh

Through: The Assistant Registrar (Accounts G&P), P.U., Chandigarh.

Sir,

I am planning to visit National Botanical Research Institute, Lucknow (U.P.) and adjoining area from January 28-31, 2019 for the collection of research material of my research project sanctioned by the Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “**Utilizing genome editing tools for nutritional improvement in wheat**”.

You are requested to kindly accord sanction to visit the above mentioned place by Train and local on taxi and also allow us to draw T.A., D.A and local travel as per rules. The expenditure on this will be met out of the budget head “Travel” grant of the **DBT- Research Project**, where the budget provision exists.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**February 5, 2019**

The Chairperson  
Department of Botany  
Panjab University  
Chandigarh

Respected Madam,

I wish to state that I am facing space constraints for my research work since I have 4 research projects along with large number of instruments, including some bigger ones, which are difficult to be placed in my allocated lab space. Moreover, I have 5 PhD students, 1 students in the project and students sent by INSA Govt. of India for research, who find it difficult to sit in the lab due to congestion by the instruments.

Hence, you are requested to allocate me more space/lab/room for smooth working of my research work.

Thanking you,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

The Vice-Chancellor  
Panjab University,  
Chandigarh

**Ref. 236/SKU/Bot**

**Date: 12.2.2019**

Through: The Finance and Development Officer, P.U., Chandigarh.

Sir,

I have sanctioned Two research projects by **1)** Science & Engineering Research Board, Department of Science and Technology (**DST**), New Delhi on “Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)” **and 2)** Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “Utilizing genome editing tools for nutritional improvement in wheat”.

I wish to buy a few laboratory items i.e. Chemicals & Glassware and repair of some equipment etc. of Research Lab.

You are requested to kindly allow me to purchase/ repair the above mentioned items. It is also requested that an **amount of Rs. 58,900/- (approximate i.e. 35% out of overhead charges)** may kindly be sanctioned **out of the funds provided by the Science & Engineering Research Board, Department of Science and Technology (DST) and Department of Biotechnology (DBT)**, New Delhi for research under my charge out of the budget head “**Overhead charges**” (**copy enclosed**) where the budget provision exists.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

## CERTIFICATE

It is certified that the product Tetramethyl Ethylene being purchased as per our requirement for Research in the Research Project is not available on GeM Portal.

(S. K. Upadhyay)

Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

## CERTIFICATE

It is certified that the product Nitro Blue Tetrazolium Chloride being purchased as per our requirement for Research in the Research Project is not available on GeM Portal.

(S. K. Upadhyay)

Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

## CERTIFICATE

It is certified that the product X Gal for Molecular Biology 98% being purchased as per our requirement for Research in the Research Project is not available on GeM Portal.

(S. K. Upadhyay)

Principal Investigator





# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

## CERTIFICATE

It is certified that the product T4 DNA Ligase Enzyme being purchased as per our requirement for Research in the Research Project is not available on GeM Portal.

(S. K. Upadhyay)

Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

## CERTIFICATE

It is certified that the product Eco RV Restriction Enzyme being purchased as per our requirement for Research in the Research Project is not available on GeM Portal.

(S. K. Upadhyay)

Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

## CERTIFICATE

It is certified that the product B-Nicotinamide Ade. Dinuc (B-NADH) and NADPH) being purchased as per our requirement for Research in the Research Project is not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

## CERTIFICATE

It is certified that the product B-Nicotinamide Adenine Din (BNAD) being purchased as per our requirement for Research in the Research Project is not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

## CERTIFICATE

It is certified that the product Chromatography Paper being purchased as per our requirement for Research in the Research Project is not available on GeM Portal.

(S. K. Upadhyay)

Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Esttd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

## CERTIFICATE

It is certified that the product X Gal for Molecular Biology 98% being purchased as per our requirement for Research in the Research Project is not available on GeM Portal.

(S. K. Upadhyay)

Principal Investigator









# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**April 1, 2019**

Dean Research  
Research Promotion Cell  
Panjab University  
Chandigarh

Through: The Assistant Registrar (Accounts G&P), P.U., Chandigarh.

Sir,

I am planning to visit Kullu, Manali and adjoining area from April 4-7, 2019 for the collection of research material of my research project sanctioned by the Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on **“Utilizing genome editing tools for nutritional improvement in wheat”**.

You are requested to kindly accord sanction to visit the above mentioned place by my own car/ taxi and also allow us to draw T.A., D.A and local travel as per rules. The expenditure on this will be met out of the budget head “Travel” grant of the **DBT-Research Project**, where the budget provision exists.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

E-mail: [skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)

## ADVERTISEMENT DRAFT

### Positions Vacant

Applications on plain paper are invited for the following temporary position in a research project sanctioned by the Government of India, Ministry of Science & Technology, Department of Biotechnology (DBT), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “**Utilizing genome editing tools for nutritional improvement in wheat**”. The tenure of the project is upto 19<sup>th</sup> June 2020.

### **Technical Staff:**

**Junior Research Fellow:** one @ Rs 25,000/- fixed p.m. + HRA

**Non-NET** candidate may be considered for appointment as Research Fellow @ Rs. 14000/- p.m. (fixed), if the NET-qualified candidates are not available.

### Eligibility conditions:

**Junior Research Fellow:** M.Sc. (Botany/ Biotechnology/ Biochemistry/ M. Tech in Biotechnology) with 55% marks and preference will be given to those, who have qualified CSIR-NET / SLET /PU Ph.D. Entrance test or equivalent test qualified in life sciences.

### **Desirable qualification/ skills:**

(i) Should have knowledge and skills for data mining in biological sequence database and, sequence analysis tools/ packages. (ii) Should have knowledge in basic molecular biology techniques.

### **Age Limit:**

28 years which is relaxed up to 5 years in the case of candidates belonging to Schedule Castes/ Schedule Tribes, Women, Physically Handicapped and OBCs etc.

### Terms & Conditions:

- The positions are co-terminus with the completion of the Research Project or even before (at one month notice, if the work and conduct is not found satisfactory).

### How to apply:

Applications on plain paper giving following details must reach the **undersigned latest by the stipulated dated.**

*Name, Parents' name, postal address, e.mail address and cell-phone number for communication; academic career with details of 10<sup>th</sup>, 10+2, B.Sc. M.Sc. and M.Phil (if applicable), CSIR-NET/SLET/PU Ph.D.-Entrance Test with supporting documents, research publications, experience certificates.*

- Digital application (in pdf format) can also be sent by e.mail ([skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)).
- The hard copy can be brought and submitted at the time of interview, in case of digital application along with all testimonials and original documents.
- No TA/ DA is applicable for attending the interview.
- The selected candidate shall be governed by DBT and / or Panjab University Rules and Regulations.

**Kindly put on the Notice Board.**

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

Dean Research  
Panjab University  
Chandigarh

(91) (0172) 2534001 (Off.)  
E-mail: [skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)

Ref. \_\_\_\_\_

**April 09, 2019**

Through: The Assistant Registrar (G&P) P.U., Chandigarh.

Sir,

One research position has fallen vacant due to resignation of research fellow Mr. Himanshu Sharma (copy enclosed) from **DBT project** since he has been selected as Senior Research Fellow (CSIR) copies enclosed).

A research project has been sanctioned by the Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “**Utilizing genome editing tools for nutritional improvement in wheat**” for three years. Under this project, there is a provision to appoint **one JRF**.

I propose to appoint one JRF for carrying forward my research activity. In order to select meritorious person, I need to advertise the one temporary post through advertisement for wider circulation in different universities/ research institutions/ University departments.

You are further requested to approve (a) draft advertisement and (b) the following selection committee for the appointment of the above mentioned one JRF.

1. Dean Research or his nominee
2. Prof. Sunita Kapila, Chairperson, Botany Department
3. Prof. Harsh Nayyar
4. Dr. Kashmir Singh, Associate Professor, Department of Biotechnology, P.U., Chandigarh
5. Dr. S. K. Upadhyay, P.I.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator





# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Etted. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

E-mail: [skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)

**267-285/SKU/Bot**

**April 29, 2019**

## ADVERTISEMENT DRAFT

### Positions Vacant

Applications on plain paper are invited for the following temporary position in a research project sanctioned by the Government of India, Ministry of Science & Technology, Department of Biotechnology (DBT), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “**Utilizing genome editing tools for nutritional improvement in wheat**”. The tenure of the project is upto 19<sup>th</sup> June 2020.

### **Technical Staff:**

**Junior Research Fellow:** one @ Rs 25,000/- fixed p.m. + HRA

**Non-NET** candidate may be considered for appointment as Research Fellow @ Rs. 14000/- p.m. (fixed), if the NET-qualified candidates are not available.

### Eligibility conditions:

**Junior Research Fellow:** M.Sc. (Botany/ Biotechnology/ Biochemistry/ M. Tech in Biotechnology) with 55% marks and preference will be given to those, who have qualified CSIR-NET / SLET /PU Ph.D. Entrance test or equivalent test qualified in life sciences.

### **Desirable qualification/ skills:**

(i) Should have knowledge and skills for data mining in biological sequence database and, sequence analysis tools/ packages. (ii) Should have knowledge in basic molecular biology techniques.

### **Age Limit:**

28 years which is relaxed up to 5 years in the case of candidates belonging to Schedule Castes/ Schedule Tribes, Women, Physically Handicapped and OBCs etc.

### Terms & Conditions:

- The positions are co-terminus with the completion of the Research Project or even before (at one month notice, if the work and conduct is not found satisfactory).

### How to apply:

Applications on plain paper giving following details must reach the **undersigned latest by 15.5.2019**

*Name, Parents' name, postal address, e.mail address and cell-phone number for communication; academic career with details of 10<sup>th</sup>, 10+2, B.Sc. M.Sc. and M.Phil (if applicable), CSIR-NET/SLET/PU Ph.D.-Entrance Test with supporting documents, research publications, experience certificates.*

- Digital application (in pdf format) can also be sent by e.mail ([skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)).
- The hard copy can be brought and submitted at the time of interview, in case of digital application along with all testimonials and original documents.
- No TA/ DA is applicable for attending the interview.
- The selected candidate shall be governed by DBT and / or Panjab University Rules and Regulations.

**Kindly put on the Notice Board.**

(S. K. Upadhyay)  
Principal Investigator

**Registered Post**

The Chairperson  
Department of Botany  
University of Delhi, Delhi

The Chairperson  
Department of Botany  
Panjab University, Patiala

The Chairperson  
*Department of Biosciences*  
H.P. University, Shimla (H.P.)

The Chairperson  
Department of Botany  
Kurukshetra University Kurukshetra (Haryana)

The Head  
Department of Botany  
Lucknow University, Lucknow

The Head  
Department of Botany  
M.D. University, Rohtak, Haryana

The Head  
Department of Botany  
P.A.U., Ludhiana (Pb.)

The Head  
Department of Botany  
Jammu University, Jammu

The Chairperson  
Department of Botany  
University of Rajasthan, Jaipur

The Chairperson  
Department of Botany  
G.N.D.U. Amritsar (Pb.)

The Head  
Department of Botany  
H.A.U. Hisar

The Head  
Department of Environment Sciences  
GJU, Hisar

The Head  
Department of Life Science/ Environment  
Inderprastha University  
Delhi

The Director

Institute of Himalayan Bio-resource Technology (IHBT)  
P.B. No. 6  
Palampur-176 061 (H.P.)



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

Dean Research  
Panjab University  
Chandigarh

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**May 21, 2019**

Through: The Assistant Registrar (Accounts G&P), P.U., Chandigarh.

Sir,

I wish to inform you that I want to visit, SRM School of Management, SERM-IST, Kattankulathur, Chennai, Tamilnadu for progress report presentation of Early Career Research Award Project **from June 14-15, 2019**. I shall be traveling by Air from Chandigarh to Chennai and back. I shall be travelling on June 13 and return on June 16, 2019. You are requested very kindly to permit me to travel by Air and also allow me to draw T.A.D.A., Accommodation and Local travel by Taxi out of my research project sanctioned by the Science & Engineering Research Board (**SERB**), Department of Science and Technology (**DST**), New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)" out of the budget head "**Travel**" where budget provision exists. The approximate expenses to and fro is Rs. 25,000/-. A copy of the e-mail received from **SERB** is enclosed herewith for your ready reference.

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator





**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

Bio-data of the candidate for one Fellowship of **Junior Research Fellow**: one @ Rs 25,000/- fixed p.m. under the sanctioned by the Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on "Utilizing genome editing tools for nutritional improvement in wheat".

<b>Sr. No.</b>	<b>Name of the Candidate</b>	<b>Father's Name</b>	<b>Date of Birth</b>	<b>Qualifications</b>	<b>Experience</b>	<b>Remarks</b>
1	Naina Garewal	Sh. Balwant Singh Garewal	11.9.1992	B.Sc. 74.06% M.Sc. 66.95% GATE-2017 Qualified PU. Ph.D. Entrance-2016 Qualified	8 months	-

(Prof. Devinder Mehta)  
Dean Research's Nominee

(Prof. Sunita Kapila)  
Chairperson

(Prof. Harsh Nayyar)  
Member

(Dr. Kashmir Singh)  
Member

Dr. S. K. Upadhyay  
Principal Investigator



# PROCEEDINGS OF THE SELECTION COMMITTEE

31.5.2019

A meeting of the Selection Committee to recommend suitable candidate for appointment of **Junior Research Fellow** in the Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “Utilizing genome editing tools for nutritional improvement in wheat” was held on **31.5.2019 at 3.00 p.m.** in the Department of Botany, Panjab University, Chandigarh.

The Selection Committee comprised the following:

1. Prof. Devinder Mehta (Dean Research's nominee)
2. Prof. Sunita Kapila, Chairperson, Department of Botany, P.U., Chandigarh
3. Prof. Harsh Nayyar, Member
4. Dr. Kashmir Singh, Associate Professor, Department of Biotechnology, P.U., Chandigarh
5. Dr. S. K. Upadhyay, Principal Investigator

The Committee scrutinized the application and other documents and interviewed the candidate. The unanimous recommendations of the Committee are as under:

## **Selected:**

### **Junior Research Fellow**

**Ms. Naina Garewal, GATE qualified (@ Rs 25,000/- + HRA**

The appointment of Junior Research Fellows made on purely temporary basis till the tenure of the research project.

(Prof. Devinder Mehta)  
Dean Research's Nominee

(Prof. Sunita Kapila)  
Chairperson

(Prof. Harsh Nayyar)  
Member

(Dr. Kashmir Singh)  
Member

(Dr. S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**May 31, 2019**

Dean Research  
Panjab University,  
Chandigarh

Through: The Assistant Registrar (Accounts G&P), P.U., Chandigarh.

Sir,

Please find enclosed herewith the proceedings of the Selection Committee, which met on 31.5.2019 at 3.00 p.m. in the Department of Botany, Panjab University, Chandigarh to recommend suitable candidate for the appointment of **One Junior Research Fellow** in the Government of India, Ministry of Science & Technology, Department of Biotechnology (DBT), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “Utilizing genome editing tools for nutritional improvement in wheat” under my charge. You are requested kindly to approve the same.

With kind regards,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator

- Encls: 1. Proceedings of the Selection Committee  
2. Comparative Statement of the candidates  
3. Approval of the Selection Committee  
4. Advertisement Notice  
5. Applications of the candidates

**Attendance** of candidate for appointment of **Junior Research Fellow** in the Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “Utilizing genome editing tools for nutritional improvement in wheat” was held on **31.5.2019 at 3.00 p.m.** in the Department of Botany, Panjab University, Chandigarh.

Name of candidate	Signature
<b>Ms. Naina Garewal</b>	





# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

Ms. Naina Garewal  
Department of Botany  
Panjab University  
Chandigarh

**July 8, 2019**

I am pleased to inform you that the Dean, Research, Panjab University, Chandigarh has approved your appointment as **Junior Research Fellow (JRF)** @ Rs.25,000/-p.m. + HRA vide No. 2610/GP dated 05.7.2019. Your appointment is purely temporary basis till the tenure of the Research Project, funded by the Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on “Utilizing genome editing tools for nutritional improvement in wheat”, under my charge. You will be governed by the rules and regulations of Panjab University/ DBT.

It is understood that there will be no financial liability on the part of the University, whatsoever, on this account, now or any time in future after the termination of the above said Research Project. You shall have no claim whatsoever for the regularization of your services.

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator



July 8, 2019

Dr. S. K. Upadhyay  
Principal Investigator  
Department of Botany  
Panjab University,  
Chandigarh

Subject: Joining report for the Fellowship of Junior Research Fellow (JRF) in the DBT Research Project.

Sir,

Thank you very much for your letter No.289/SKU/Bot. dated 8.7.2019 informing about my appointment as Junior Research Fellow (JRF) @ Rs.25,000/-p.m. + HRA and also conveyed by the Assistant Registrar (Accounts G&P) vide No. 2610/GP dated 5.7.2019 till the tenure of the research project funded by the Government of India, Ministry of Science & Technology, Department of Biotechnology (**DBT**), Block 2, (6-8<sup>th</sup> Floors) CGO Complex, Lodhi Road, New Delhi on "Utilizing genome editing tools for nutritional improvement in wheat", under your charge. I gratefully accept the said appointment and assure you Sir that I shall try to come up to your expectation.

As desired by you, I am joining the duty **w.e.f. 8.7. 2019 (F.N.)**.

With kind regards,

Yours faithfully,

(Naina Garewal)  
JRF  
Department of Botany  
Panjab University  
Chandigarh

,



**PANJAB UNIVERSITY**  
**DEPARTMENT OF ENVIRONMENT STUDIES**  
**CHANDIGARH - 160 014**

**Dr. H. P. Singh**  
*Professor*

Ref. \_\_\_\_\_

Date: \_\_\_\_\_

**Subject:** Purchase of **GPS (Make: Trimble)** under **NMHR** Research Project sanctioned to Prof. H.P. Singh, Department of Environment Studies, Panjab University, Chandigarh.

1. The Technical/ Purchase Committee unanimously approved/ recommended (**Repeat Order**) for the purchase of **GPS (Make: Trimble)** out of **NMHR** Research Project under the budget-head- "Equipment".
  - a) Name /Brand of the Article: (**as mentioned in the quotations**)
  - b) GPS : Handheld, light weight, rugged system to work in wide range of temperature (-10 to 60°C) with automatic data collection, Both 4G cellur (GSM (850/900/1800/1900), GPRS, EDGE, UMTS, WCDMA (B1/B2/B5/B8), TD-SCDMA (B34/B39), LTE-FDD (B1/B3/B4/B5/B7/B8/B20) LTE-TDD (B38-B39/B40/B41) or better), text and voice capable, with W-Fi (802.11 b/g/n or better) enabled and having Bluetooth 4.0 or better etc. Android 6 or higher operating system: having user interface keyboard, on screen keyboard, and programmable key; water and dust proof; with E-G- and light sensor; with cloud based data collection software with soft pouch, screen protectors (at least 2), USB cable, A/c charger lanyard, and other standard accessories, see detail mentioned in the N.I.Q./ Technical comparative Statement.
2. It is just came to my notice that Prof. Daizy R. Batish, Department of Botany, Panjab University, Chandigarh has recently finalized a similar equipment after following the proper procedure of inviting quotations and getting the same approved by the Dean, Research, P.U., Chandigarh at a total cost of Rs. 1,77,000/- vide No. GP/9974/A dated 29.1.2019.
3. we are satisfied with the make and the specifications of the equipment and unanimously approved that the purchase will be made **according to Panjab University Accounts Manual 2012 Page No. 198 Para 27.14.10 (Repeat Order)**, "In such cases to save the University time and resources, the department can issue a repeat order, the Purchase/ Technical Committee certified that the rates of earlier purchase still hold good/reasonable and the performance of the supplier is satisfactory and further certified that the repeat order will be made before a period of six months from the date of issue of first purchase order for the above said purchase". A copy of recommendation of the Committee is attached. This will save the Department as well as University's time and resources. As the rate quoted by M/s Telespeed Telecom, # 2607, 1<sup>st</sup> Floor, Sector 70, S.A.S. Nagar, Mohali for the supply of **GPS** in question, still appears to be reasonable and the performance of the MAKE and the supplier is also satisfactory, it is requested that we may kindly be allowed to place a Repeat Order to the above mentioned firm as per terms and conditions already approved for the Department of Botany, conveyed vide letter No. GP/9974/A dated 29.1.2019..

**It is recommended that:**

  - i) The purchase may be allowed under (**Repeat Order**) and lowest quotation basis and as per requirements/ required specifications as desired by the P.I. The Technical/ Purchase Committee unanimously recommended that the **GPS** will be purchased from M/s Telespeed Telecom, # 2607, 1<sup>st</sup> Floor, Sector 70, S.A.S. Nagar, Mohali, who has quoted the lowest rate of **Rs. 1,77,000/- including GST** etc. and as per required specifications, as desired by the Principal Investigator. The quotations were found to be suitable as per our requirements/ specifications for research.
  - ii) You are requested that an amount of **Rs. 1,77,000/- (including GST)** may kindly be sanctioned. The expenditure will be met from the **NMHR Research Project Grant** under the budget head "**Equipment**", where requisite provision exists.

(H. P. Singh))  
Principal Investigator

The Assistant Registrar (G & P)  
P.U., Chandigarh

August 6, 2019

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

A research project has been sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)" under my charge. The grant has already been released by the Ministry for the year 2019-2020 and detail of head-wise is given below:

1. Previous Balance is available (Recurring)	Rs. 30,053/-
2. Equipment (Non Recurring)	Rs. 1,688/-
3. Grant Received	Rs. 7,00,000/-

---

G. Total Rs. 7,31,741/-

1. Manpower:	3,00,259/-
2. Contingency:	Nil
3. Travel:	Nil
4. Consumable:	3,05,580/-
5. Equipment	1,688/-
6. Over-head:	1,24,214/-

---

Rs. 7,31,742/-

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product NADPH chemical is being purchased as per our requirement for Research in the Research Project sanctioned sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product Chromatographic sheets is being purchased as per our requirement for Research in the Research Project sanctioned sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chromatographic sheets are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product (NBT) chemical is being purchased as per our requirement for Research in the Research Project sanctioned sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product NADH chemical is being purchased as per our requirement for Research in the Research Project sanctioned sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product NOT1 (NEB) chemical is being purchased as per our requirement for Research in the Research Project sanctioned sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator



## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product Imidazole for Molecular Biology chemical is being purchased as per our requirement for Research in the Research Project sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

# DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

## CERTIFICATE

It is certified that the product Abscisic Acid Extrapurechemical is being purchased as per our requirement for Research in the Research Project sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

# DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

## CERTIFICATE

It is certified that the product (B-NADP) Free Acid and Acrylamide chemical is being purchased as per our requirement for Research in the Research Project sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product NINHYDRIN chemical is being purchased as per our requirement for Research in the Research Project sanctioned sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product vitamin-B-12 chemical is being purchased as per our requirement for Research in the Research Project sanctioned sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product Glycerol for Molecular Biology chemical is being purchased as per our requirement for Research in the Research Project sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product ETHIDIUM BROMIDE chemical is being purchased as per our requirement for Research in the Research Project sanctioned sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product P NITROPHENYLPHOSPHATE chemical is being purchased as per our requirement for Research in the Research Project sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator



## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product amino acids kit chemical is being purchased as per our requirement for Research in the Research Project sanctioned sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product SYBER SAFE DNA GEL STAIN chemical is being purchased as per our requirement for Research in the Research Project sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product ORCINO ANHYDROUS AND NINHYDRIN EXTRAPURE chemical is being purchased as per our requirement for Research in the Research Project sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product 1,3,5- TRIPHENYLTERTRAZOLIUM CHLORIDE chemical is being purchased as per our requirement for Research in the Research Project sanctioned sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_/SKU/Bot

Date: 28.8.2019

The Vice-Chancellor  
Panjab University,  
Chandigarh

Through: The Finance and Development Officer, P.U., Chandigarh.

Sir,

I have sanctioned a research project by the Science & Engineering Research Board, Department of Science and Technology (**DST-SERB**), New Delhi on “Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)” .

I wish to buy a few laboratory items i.e. Chemicals & Glassware and repair of some equipment etc. of Research Lab.

You are requested to kindly allow me to purchase/ repair the above mentioned items. It is also requested that an **amount of Rs. 43,400/- (approximate i.e. 35% out of overhead charges)** may kindly be sanctioned **out of the funds provided by the Science & Engineering Research Board, Department of Science and Technology (DST-SERB)** for research under my charge out of the budget head “**Overhead charges**” (**copy enclosed**) where the budget provision exists.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product 5-BROMO-4-Chloro-3-Indoly is being purchased as per our requirement for Research in the Research Project sanctioned sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This item is not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product Phire Hot Start II DNA chemical is being purchased as per our requirement for Research in the Research Project sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

### CERTIFICATE

It is certified that the product D-Galactose, Dimethyl Sulfoxide and Methionine chemical is being purchased as per our requirement for Research in the Research Project sanctioned sanctioned by the Science & Engineering Research Board (**SERB**) New Delhi on "Isolation and Characterization of Sodium/ Calcium exchanger (NCX) family of proteins from bread wheat (*Triticum aestivum* L.)". This/These chemicals are not available on GeM Portal.

(S. K. Upadhyay)  
Principal Investigator





# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

E-mail: skupadhyay@pu.ac.in

N.I.Q.

*UNDER REGISTERED POST*

**Ref. No. 314-318/SKU/Bot**

**Date: 25.9.2019**

Dear Sir,

Please quote your lowest rates in DUPLICATE, for the item (s) given below as per the specifications. Your quotation should reach the undersigned on **or before 9.10.2019**.

---

**Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer.**

Single door, Front Opening, Door type Hinged, Air Tight Door, Number of shelves-6, Poly Urethane foam Insulation, Semi-automatic Defrosted, Direct cooling, Storage chamber temperature display, Audio alarm visual alarm digital display visual alarm digital display. Capacity and dimension : Capacity 500 Liters, Over all length (mm) 1400, Width (mm) 1000, Height (mm) 1000 thickness (mm) 100, Holdover time (Minute: 120, Eco-Friendly Refrigerator, compressor AC Reciprocating, Set Temperature-5, Voltage Single Phase 230V etc.

**Warranty both parts labour should be minimum of two years.**

---

The rates quoted should be **FOR Botany Department, P. U., Chandigarh. SPECIAL DISCOUNT** for educational institutions/University teaching department may be mentioned. **The technical, financial bids and EMD be enclosed in separate sealed envelopes** duly marked and placed together in a duly sealed envelope giving our reference and due date of quotation. It should reach to **Dr. S. K. Upadhyay, Principal Investigator Department of Botany, Panjab University, Chandigarh-160 014 by due date. Warranty both parts labour should be minimum of two years.**

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator

***UNDER REGISTERED POST***

**For the purchase of Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer.**

M/s Himalaya Scientific House  
SCF-6 1<sup>st</sup> Floor  
Sector 15-C  
Chandigarh-160 015

M/s. Max Electronics (India)  
Plot No. 25/6, Phase-II  
Industrial Area  
Chandigarh

M/s. Vallabh Scientific Corporation  
SCO 63, 2<sup>nd</sup> Floor  
Sector – 32  
Chandigarh

M/s Bhartiya Chemical Traders  
SCO 159 (1<sup>st</sup> Floor), Sector 24-D  
Chandigarh

M/s. Ananya Enterprises  
Plot No. 136-140/55  
Industrial Area, Phase-1  
Chandigarh



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
Principal Investigator

☎ (91) (0172) 2534001 (Off.)  
E-mail: skupadhyay@pu.ac.in

N.I.Q.

UNDER REGISTERED POST

Ref. No. 319-324/SKU/Bot

Date: 4.10.2019

Dear Sir,

Please quote your lowest rates in DUPLICATE, for the item (s) given below as per the specifications. Your quotation should reach the undersigned on **or before 18.10.2019**.

### Double-Beam UV-VIS Spectrophotometer

Optical Design	Double-Beam spectrophotometer
Light Source	Xenon flash lam minimum 3/5 years warranty
Detector	Dual silicon Photodiodes
Scan ordinate modes	Absorbance, % transmittance, % Reflectance, etc.
Resolution	> 1.6 (Peak-to-valley ration)
Wavelength range	190 - 1100nm
Accuracy	$\pm 0.8\text{nm}$ (full range 190 – 1100 nm) $\pm 0.5\text{ nm}$
Repeatability	< 0.1 nm
Scanning Speed	< to 6000 nm/ min. variable
Photometric range	>3.5A or above
Display range	-0.3 to 4.0 and Touch screen LCD panel; 800 x 480; 17.8cm, including Microsoft Windows XP etc.
Accuracy	0.5A: $\pm 0.004$ , 1 $\pm 0.005$ , 2 $\pm 0.010$
Monochromator Type	Czerny-turner
Resolution ( Nm )	1.5
Diraction Grating (lines::Mm)	1200
Source Wavelength - Maximum Nm )	1100
Number of Cuvettes supplied-inclusive in the scope of supply	10
Spectral Bandwidth Type	: Variable Bandwidth
Internal storage(GB)	8 Gb
Display type	LCD with Backlight
Display	In-built display
Mximum Path Length of sample	120 mm
Power Supply	230 V $\pm$ 10, 50 Hz
Scanning Speed (nm/min)	4200
Experience of the supplier with Govt. Institute	15 year Min.
MSE Certificate	Required

The rates quoted should be **FOR Botany Department**, P. U., Chandigarh. **SPECIAL DISCOUNT** for educational institutions/University teaching department may be mentioned. **The technical, financial bids and EMD be enclosed in separate sealed envelopes** duly marked and placed together in a duly sealed envelope giving our reference and due date of quotation. It should reach to **Dr. S. K. Upadhyay, Principal Investigator Department of Botany, Panjab University, Chandigarh-160 014 by due date. Warranty both parts labour should be minimum of two years.**

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator

***UNDER REGISTERED POST***

**For the purchase of Double-Beam UV-VIS Spectrophotometer**

M/s. Max Electronics (India)  
Plot No. 25/6, Phase-II  
Industrial Area  
Chandigarh

M/s. Vallabh Scientific Corporation  
SCO 63, 2<sup>nd</sup> Floor  
Sector – 32  
Chandigarh

M/s Bhartiya Chemical Traders  
SCO 159 (1<sup>st</sup> Floor), Sector 24-D  
Chandigarh

M/s. Thermo Fisher Scientific  
Kripa Nagar (Chandigarh Road)  
Ambala City-134007  
Haryana

M/s. Agilent Technologies India Pvt. Ltd.  
DLF Info City Developers Chandigarh Ltd  
Ground Floor, Tower-D, Plot No. 2  
DLF IT Park, Kishan Garh, Chandigarh-160101

M/s Himalaya Scientific House  
SCF-6 1<sup>st</sup> Floor  
Sector 15-C  
Chandigarh-160 015





**Technical Comparative Statement** for the purchase of **Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer** under the budget-head "Equipment" in the Research Project "Council of Scientific and Industrial Research (CSIR), New Delhi on "Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)" sanctioned to **Dr. S. K. Upadhyay, P.I.**

<p><b>Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer.</b> Single door, Front Opening, Door type Hinged, Air Tight Door, Number of shelves-6, Poly Urethane foam Insulation, Semi-automatic Deforested, Direct cooling, Storage chamber temperature display, Audio alarm visual alarm digital display visual alarm digital display. Capacity and dimension : Capacity 500 Liters, Over all length (mm) 1400, Width (mm) 1000, Height (mm) 1000 thickness (mm) 100, Holdover time (Minute: 120, Eco-Friendly Refrigerator, compressor AC Reciprocating, Set Temperature-5, Voltage Single Phase 230V etc. Warranty both parts labour should be minimum of two years.</p>	<p>M/s. Himalaya Scientific House, S.C.F. 6, 1<sup>st</sup> F., Sector 15-C, Chandigarh</p> <p><b>Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer.</b> Single door, Front Opening, Door type Hinged, Air Tight Door, Number of shelves-6, Poly Urethane foam Insulation, Semi-automatic Deforested, Direct cooling, Storage chamber temperature display, Audio alarm visual alarm digital display visual alarm digital display. Capacity and dimension : Capacity 500 Liters, Over all length (mm) 1400, Width (mm) 1000, Height (mm) 1000 thickness (mm) 100, Holdover time (Minute: 120, Eco-Friendly Refrigerator, compressor AC Reciprocating, Set Temperature-5, Voltage Single Phase 230V etc. Warranty both parts labour for two years. Make REMI</p>	<p>M/s. Max Electronics (India), Plot No. 25/6, Phase-II, Industrial Area, Chandigarh</p> <p><b>Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer.</b> Single door, Front Opening, Door type Hinged, Air Tight Door, Number of shelves-6, Poly Urethane foam Insulation, Semi-automatic Deforested, Direct cooling, Storage chamber temperature display, Audio alarm visual alarm digital display visual alarm digital display. Capacity and dimension : Capacity 500 Liters, Over all length (mm) 1400, Width (mm) 1000, Height (mm) 1000 thickness (mm) 100, Holdover time (Minute: 120, Eco-Friendly Refrigerator, compressor AC Reciprocating, Set Temperature-5, Voltage Single Phase 230V etc. Warranty both parts labour for two years. Make REMI</p>	<p>M/s. Vallabh Scientific Corporation, SCO 63, 2<sup>nd</sup> Floor Sector – 32, Chandigarh</p> <p><b>Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer.</b> Single door, Front Opening, Door type Hinged, Air Tight Door, Number of shelves-6, Poly Urethane foam Insulation, Semi-automatic Deforested, Direct cooling, Storage chamber temperature display, Audio alarm visual alarm digital display visual alarm digital display. Capacity and dimension : Capacity 500 Liters, Over all length (mm) 1400, Width (mm) 1000, Height (mm) 1000 thickness (mm) 100, Holdover time (Minute: 120, Eco-Friendly Refrigerator, compressor AC Reciprocating, Set Temperature-5, Voltage Single Phase 230V etc. Warranty both parts labour for two years. Make REMI</p>	<p>M/s. Bhartiya Chemical Traders, S.C.O. 159, Sector 24-D, Chandigarh</p> <p><b>Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer.</b> Single door, Front Opening, Door type Hinged, Air Tight Door, Number of shelves-6, Poly Urethane foam Insulation, Semi-automatic Deforested, Direct cooling, Storage chamber temperature display, Audio alarm visual alarm digital display visual alarm digital display. Capacity and dimension : Capacity 500 Liters, Over all length (mm) 1400, Width (mm) 1000, Height (mm) 1000 thickness (mm) 100, Holdover time (Minute: 120, Eco-Friendly Refrigerator, compressor AC Reciprocating, Set Temperature-5, Voltage Single Phase 230V etc. Warranty both parts labour for two years. Make REMI</p>
--	---	---	--	--

The Purchase-cum-Technical Committee of the Department of Botany, Panjab University, Chandigarh was held on 11.10. 2019 in the Office of the Chairperson to open the quotations (Technical Bids) of the **Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer** to be purchased under the budget-head "Equipment" in the Research Project "Council of Scientific and Industrial Research (CSIR), New Delhi on "Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)" sanctioned to **Dr. S. K. Upadhyay, P.I.** The Purchase/ Technical Committee unanimously approved, the Technical Specifications of all the above mentioned four firms for the purchase of **Vertical Deep Freezer (Make REMI)**. All these firms have quoted the required specifications as desired by the P.I., Dr. S. K. Upadhyay.

(Prof. Daizy Rani)  
Chairperson

(Prof. Harsh Nayyar)  
Member

(Prof. C. Nirmala)  
Secretary Technical Committee

(Dr. Anju Rao)  
Member

(Dr. Jaspreet Kaur)  
Member

(Dr. Papiya Mukherjee)  
Member

(Dr. S. K. Upadhyay)  
P.I.

**Financial Comparative Statement** for the purchase of **Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer** under the budget-head "Equipment" in the Research Project "Council of Scientific and Industrial Research (CSIR), New Delhi on "Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)" sanctioned to **Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh.**

<p><b>Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer.</b> Single door, Front Opening, Door type Hinged, Air Tight Door, Number of shelves-6, Poly Urethane foam Insulation, Semi-automatic Deforested, Direct cooling, Storage chamber temperature display, Audio alarm visual alarm digital display visual alarm digital display. Capacity and dimension : Capacity 500 Liters, Over all length (mm) 1400, Width (mm) 1000, Height (mm) 1000 thickness (mm) 100, Holdover time (Minute: 120, Eco-Friendly Refrigerator, compressor AC Reciprocating, Set Temperature-5, Voltage Single Phase 230V etc.</p> <p>Warranty both parts labour should be minimum of two years.</p> <p><b>Detail of the Specifications mentioned in the Technical Comparative Statement.</b></p>	<p>M/s. Himalaya Scientific House, S.C.F. 6, 1<sup>st</sup> F., Sector 15-C, Chandigarh</p> <p><b>Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer (Make REMI)</b></p> <p><b>Detail of the Specifications mentioned in the Technical Comparative Statement.</b></p> <p>Cost Rs. 3,15,200/- GST 5% = Rs. 15,760/- G. Total Rs.3,15,200 +15,760/- = <b>Rs. 3,30,960/-</b></p>	<p>M/s. Max Electronics (India), Plot No. 25/6, Phase-II, Industrial Area, Chandigarh</p> <p><b>Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer (Make REMI)</b></p> <p><b>Detail of the Specifications mentioned in the Technical Comparative Statement</b></p> <p>Cost Rs. 3,17,999/- GST 5% = Rs. 15,899/- G. Total Rs.3,17,999 +15,899/- = <b>Rs. 3,33,898/-</b></p>	<p>M/s. Vallabh Scientific Corporation, SCO 63, 2<sup>nd</sup> Floor, Sector – 32, Chandigarh</p> <p><b>Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer (Make REMI)</b></p> <p><b>Detail of the Specifications mentioned in the Technical Comparative Statement</b></p> <p>Cost Rs. 3,18,934/- GST 5% = Rs. 15,946/- G. Total Rs.3,18,934/- +15,946/- = <b>Rs. 3,34,880/-</b></p>	<p>M/s. Bhartiya Chemical Traders, S.C.O. 159, Sector 24-D, Chandigarh</p> <p><b>Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer (Make REMI)</b></p> <p><b>Detail of the Specifications mentioned in the Technical Comparative Statement</b></p> <p>Cost Rs. 3,17,340/- GST 5% = Rs. 15,867/- G. Total Rs. 3,17,340/- +15,867/- = <b>Rs. 3,33,207/-</b></p>
Warranty	Two Years	Two Years	Two Years	Two years
Delivery	Within 3 weeks	6-7 weeks	20-25 days	2-3 weeks
Validity	-	-	-	-
Payment	Within One Month	After Installation	15-20 days	Within 30 days
Discount	-	-	-	-
GST	GST 5% (Against exemption certificate)	GST 5% (Against exemption certificate)	GST 5% (Against exemption certificate)	GST 5% (Against exemption certificate)
<b>Total Cost</b>	<b>Rs. 3,30,960/-</b>	<b>Rs. 3,33,898/-</b>	<b>Rs. 3,34,880/-</b>	<b>Rs. 3,33,207/-</b>

The Purchase-cum-Technical Committee of the Department of Botany, Panjab University, Chandigarh was held on 11.10 2019 in the Office of the Chairperson **to open the Financial Bids and EMD** of the **Vertical Deep Freezer Working Temp.** to be purchased under Council of Scientific and Industrial Research (CSIR), New Delhi sanction Research Project to **Dr. S. K. Upadhyay**. The Purchase/ Technical Committee unanimously recommended that the **One Vertical Deep Freezer Working Temp** will be purchased from M/s. Himalaya Scientific House, S.C.F. 6, Sector 15-C, Chandigarh, who has quoted the lowest rates of **Rs. 3,30,960/- including GST** etc. and as per required specifications, as desired by the P.I..

(Prof. Daizy Rani)  
Chairperson

(Prof. Harsh Nayyar)  
Member

(Prof. C. Nirmala)  
Secretary Technical Committee

(Dr. Anju Rao)  
Member

(Dr. Jaspreet Kaur)  
Member

(Dr. Papiya Mukherjee)  
Member

(Dr. S. K. Upadhyay)  
P.I.



**Technical Comparative Statement** for the purchase of **Double-Beam UV-VIS Spectrophotometer** under the budget-head “Equipment” in the Research Project “Council of Scientific and Industrial Research (CSIR), New Delhi on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanctioned to **Dr. S. K. Upadhyay, P.I.**

<p><b>Double-Beam UV-VIS Spectrophotometer</b></p>	<p>M/s. Himalaya Scientific House, S.C.F. 6, 1<sup>st</sup> F., Sector 15-C, Chandigarh</p>	<p>M/s. Max Electronics (India), Plot No. 25/6, Phase-II, Industrial Area, Chandigarh</p>	<p>M/s. Vallabh Scientific Corporation, SCO 63, 2<sup>nd</sup> Floor Sector – 32, Chandigarh</p>	<p>M/s. Bhartiya Chemical Traders, S.C.O. 159, Sector 24-D, Chandigarh</p>
<p>Optical Design: Double-Beam spectrophotometer, Light Source: Xenon flash lam minimum 3/5 years warranty, Detector: Dual silicon Photodiodes, Scan ordinate modes: Absorbance, % transmittance, % Reflectance, etc., Resolution: &gt; 1.6 (Peak-to-valley ration, Wavelength range: 190 - 1100nm, Accuracy: <math>\pm 0.8\text{nm}</math> (full range 190 – 1100 nm) <math>\pm 0.5</math> nm, Repeatability: &lt; 0.1 nm, Scanning Speed: &lt; to 6000 nm/ min. variable, Photometric range: &gt;3.5A or above, Display range: -0.3 to 4.0 and Touch, screen LCD panel; 800 x 480; 17.8cm, including Microsoft Windows XP etc., Accuracy: 0.5A: <math>\pm 0.004</math>, 1 <math>\pm 0.005</math>, 2<math>\pm 0.010</math>, Monochromator Type: Czerny-turner, Resolution ( Nm ): 1.5, Diraction Grating (lines::Mm): 1200, Source Wavelength - Maximum Nm ): 1100, Number of Cuvettes supplied -inclusive in the scope of supply: 10, Spectral Bandwidth Type : Variable Bandwidth, Internal storage(GB): 8 Gb, Display type: LCD with Backlight, Display: In-built display,</p>	<p><b>Optical Design Double-Beam UV-VIS Spectrophotometer (Make: Thermo Fisher)</b> Optical Design: Double-Beam spectrophotometer, Light Source: Xenon flash lam minimum 3/5 years warranty, Detector: Dual silicon Photodiodes, Scan ordinate modes: Absorbance, % transmittance, % Reflectance, etc., Resolution: &gt; 1.6 (Peak-to-valley ration, Wavelength range: 190 - 1100nm, Accuracy: <math>\pm 0.8\text{nm}</math> (full range 190 – 1100 nm) <math>\pm 0.5</math> nm, Repeatability: &lt; 0.1 nm, Scanning Speed: &lt; to 6000 nm/ min. variable, Photometric range: &gt;3.5A or above, Display range: -0.3 to 4.0 and Touch, screen LCD panel; 800 x 480; 17.8cm, including Microsoft Windows XP etc., Accuracy: 0.5A: <math>\pm 0.004</math>, 1 <math>\pm 0.005</math>, 2<math>\pm 0.010</math>, Monochromator Type: Czerny-turner, Resolution ( Nm ): 1.5, Diraction Grating (lines::Mm): 1200, Source Wavelength - Maximum Nm ): 1100, Number of Cuvettes supplied -inclusive in the scope of supply: 10, Spectral Bandwidth Type : Variable Bandwidth, Internal</p>	<p><b>Double-Beam UV Spectrophotometer (Make: Thermo Fisher)</b> Optical Design: Double-Beam spectrophotometer, Light Source: Xenon flash lam minimum 3/5 years warranty, Detector: Dual silicon Photodiodes, Scan ordinate modes: Absorbance, % transmittance, % Reflectance, etc., Resolution: &gt; 1.6 (Peak-to-valley ration, Wavelength range: 190 - 1100nm, Accuracy: <math>\pm 0.8\text{nm}</math> (full range 190 – 1100 nm) <math>\pm 0.5</math> nm, Repeatability: &lt; 0.1 nm, Scanning Speed: &lt; to 6000 nm/ min. variable, Photometric range: &gt;3.5A or above, Display range: -0.3 to 4.0 and Touch, screen LCD panel; 800 x 480; 17.8cm, including Microsoft Windows XP etc., Accuracy: 0.5A: <math>\pm 0.004</math>, 1 <math>\pm 0.005</math>, 2<math>\pm 0.010</math>, Monochromator Type: Czerny-turner, Resolution ( Nm ): 1.5, Diraction Grating (lines::Mm): 1200, Source Wavelength - Maximum Nm ): 1100, Number of Cuvettes supplied -inclusive in the scope of supply: 10, Spectral Bandwidth Type : Variable Bandwidth, Internal</p>	<p><b>Double-Beam UV Spectrophotometer (Make: Thermo Fisher)</b> Optical Design: Double-Beam spectrophotometer, Light Source: Xenon flash lam minimum 3/5 years warranty, Detector: Dual silicon Photodiodes, Scan ordinate modes: Absorbance, % transmittance, % Reflectance, etc., Resolution: &gt; 1.6 (Peak-to-valley ration, Wavelength range: 190 - 1100nm, Accuracy: <math>\pm 0.8\text{nm}</math> (full range 190 – 1100 nm) <math>\pm 0.5</math> nm, Repeatability: &lt; 0.1 nm, Scanning Speed: &lt; to 6000 nm/ min. variable, Photometric range: &gt;3.5A or above, Display range: -0.3 to 4.0 and Touch, screen LCD panel; 800 x 480; 17.8cm, including Microsoft Windows XP etc., Accuracy: 0.5A: <math>\pm 0.004</math>, 1 <math>\pm 0.005</math>, 2<math>\pm 0.010</math>, Monochromator Type: Czerny-turner, Resolution ( Nm ): 1.5, Diraction Grating (lines::Mm): 1200, Source Wavelength - Maximum Nm ): 1100, Number of Cuvettes supplied -inclusive in the scope of supply: 10, Spectral Bandwidth Type : Variable Bandwidth, Internal</p>	<p><b>Optical Design Double-Beam UV-VIS Spectrophotometer (Make: Thermo Fisher)</b> Optical Design: Double-Beam spectrophotometer, Light Source: Xenon flash lam minimum 3/5 years warranty, Detector: Dual silicon Photodiodes, Scan ordinate modes: Absorbance, % transmittance, % Reflectance, etc., Resolution: &gt; 1.6 (Peak-to-valley ration, Wavelength range: 190 - 1100nm, Accuracy: <math>\pm 0.8\text{nm}</math> (full range 190 – 1100 nm) <math>\pm 0.5</math> nm, Repeatability: &lt; 0.1 nm, Scanning Speed: &lt; to 6000 nm/ min. variable, Photometric range: &gt;3.5A or above, Display range: - 0.3 to 4.0 and Touch, screen LCD panel; 800 x 480; 17.8cm, including Microsoft Windows XP etc., Accuracy: 0.5A: <math>\pm 0.004</math>, 1 <math>\pm 0.005</math>, 2<math>\pm 0.010</math>, Monochromator Type: Czerny-turner, Resolution ( Nm ): 1.5, Diraction Grating (lines::Mm): 1200, Source Wavelength - Maximum Nm ): 1100, Number of Cuvettes supplied -inclusive in the scope of supply: 10, Spectral Bandwidth Type : Variable Bandwidth, Internal storage(GB): 8 Gb, Display type: LCD with Backlight, Display: In-built display, Mximum</p>

Mximum Path Length of sample: 120 mm, Power Supply: 230 V ± 10, 50 Hz, Scanning Speed (nm/min): 4200, Experience of the supplier with Govt. Institute: 15 year Min., MSE Certificate: Required and Warranty both parts labour should be minimum of two years.	storage(GB): 8 Gb, Display type: LCD with Backlight, Display: In-built display, Mximum Path Length of sample: 120 mm, Power Supply: 230 V ± 10, 50 Hz, Scanning Speed (nm/min): 4200, Experience of the supplier with Govt. Institute: 15 year Min., MSE Certificate: Required. Warranty both parts and labour is for two years.	storage(GB): 8 Gb, Display type: LCD with Backlight, Display: In-built display, Mximum Path Length of sample: 120 mm, Power Supply: 230 V ± 10, 50 Hz, Scanning Speed (nm/min): 4200, Experience of the supplier with Govt. Institute: 15 year Min., MSE Certificate: Required. Warranty both parts and labour is for two years.	storage(GB): 8 Gb, Display type: LCD with Backlight, Display: In-built display, Mximum Path Length of sample: 120 mm, Power Supply: 230 V ± 10, 50 Hz, Scanning Speed (nm/min): 4200, Experience of the supplier with Govt. Institute: 15 year Min., MSE Certificate: Required. Warranty both parts and labour is for two years.	Path Length of sample: 120 mm, Power Supply: 230 V ± 10, 50 Hz, Scanning Speed (nm/min): 4200, Experience of the supplier with Govt. Institute: 15 year Min., MSE Certificate: Required. Warranty both parts and labour is for two years.
---	--	--	--	---

The Purchase-cum-Technical Committee of the Department of Botany, Panjab University, Chandigarh was held on 23.10. 2019 in the Office of the Chairperson to open the quotations (Technical Bids) of the **Double-Beam UV-VIS Spectrophotometer** to be purchased under the budget-head "Equipment" in the Research Project "Council of Scientific and Industrial Research (CSIR), New Delhi on "Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)" sanctioned to **Dr. S. K. Upadhyay, P.I.** The Purchase/ Technical Committee unanimously approved, the Technical Specifications of all the above mentioned four firms for the purchase of **Double-Beam UV-VIS Spectrophotometer (Make: Thermo Fisher)**. All these firms have quoted the required specifications as desired by the P.I., Dr. S. K. Upadhyay.

(Prof. Daizy Rani)  
Chairperson

(Prof. C. Nirmala)  
Secretary Technical Committee

(Dr. Anju Rao)  
Member

(Dr. Jaspreet Kaur)  
Member

(Dr. Papiya Mukherjee)  
Member

(Dr. S. K. Upadhyay)  
P.I.

**Financial Comparative Statement** for the purchase of **Double-Beam UV-VIS Spectrophotometer** under the budget-head “Equipment” in the Research Project “Council of Scientific and Industrial Research (CSIR), New Delhi on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanctioned to **Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh.**

<b>Double-Beam UV-VIS Spectrophotometer</b> Optical Design: Double-Beam spectrophotometer, Light Source: Xenon flash lam minimum 3/5 years warranty, Detector: Dual silicon Photodiodes, Scan ordinate modes: Absorbance, % transmittance, % Reflectance, etc., Resolution: > 1.6 (Peak-to-valley ration, Wavelength range: 190 - 1100nm, Accuracy: $\pm 0.8$ nm (full range 190 – 1100 nm) $\pm 0.5$ nm, Repeatability: < 0.1 nm, Scanning Speed: < to 6000 nm/ min. variable, Photometric range: >3.5A or above, Display range: -0.3 to 4.0 and Touch, screen LCD panel; 800 x 480; 17.8cm. Warranty both parts labour should be minimum of two years. <b>Detail of the Specifications mentioned in the Technical Comparative Statement.</b>	M/s. Himalaya Scientific House, S.C.F. 6, 1 <sup>st</sup> F., Sector 15-C, Chandigarh <b>Double-Beam UV-VIS Spectrophotometer</b> Optical Design: Double-Beam spectrophotometer, Light Source: Xenon flash lam minimum 3/5 years warranty, Detector: Dual silicon Photodiodes, Scan ordinate modes: <b>Detail of the Specifications mentioned in the Technical Comparative Statement</b> Cost Rs. 4,46,515/- GST 5% = Rs. 22,325 G. Total Rs.4,46,515+22,325/- = <b>Rs. 4,68,840/-</b>	M/s. Max Electronics (India), Plot No. 25/6, Phase-II, Industrial Area, Chandigarh <b>Double-Beam UV-VIS Spectrophotometer</b> Optical Design: Double-Beam spectrophotometer, Light Source: Xenon flash lam minimum 3/5 years warranty, Detector: Dual silicon Photodiodes, Scan ordinate modes: <b>Detail of the Specifications mentioned in the Technical Comparative Statement</b> Cost Rs. 4,55,105/- GST 5% = Rs. 22,755 G. Total Rs.4,55,105/- +22,755/- = <b>Rs. 4,77,860/-</b>	M/s. Vallabh Scientific Corporation, SCO 63, 2 <sup>nd</sup> Floor, Sector – 32, Chandigarh <b>Double-Beam UV-VIS Spectrophotometer</b> Optical Design: Double-Beam spectrophotometer, Light Source: Xenon flash lam minimum 3/5 years warranty, Detector: Dual silicon Photodiodes, Scan ordinate modes: <b>Detail of the Specifications mentioned in the Technical Comparative Statement</b> Cost Rs. 4,51,025/- GST 5% = Rs. 22,551 G. Total Rs.4,51,025/- +22,551/- = <b>Rs. 4,73,576/-</b>	M/s. Bhartiya Chemical Traders, S.C.O. 159, Sector 24-D, Chandigarh <b>Double-Beam UV-VIS Spectrophotometer</b> Optical Design: Double-Beam spectrophotometer, Light Source: Xenon flash lam minimum 3/5 years warranty, Detector: Dual silicon Photodiodes, Scan ordinate modes <b>Detail of the Specifications mentioned in the Technical Comparative Statement</b> Cost Rs. 4,49,780/- GST 5% = Rs. 22,489 G. Total Rs.4,49,780/-+22,489/- = <b>Rs. 4,72,269/-</b>
Warranty	Two Years	Two Years	Two Years	Two years
Delivery	Within 10 days	4-5 weeks	15-20 days	3-4 weeks
Validity	-	-	-	-
Payment	Within One Month	Within 2-3 weeks	4 weeks	Within 3-4 weeks
Discount	-	-	-	-
GST	GST 5% (Against exemption certificate)	GST 5% (Against exemption certificate)	GST 5% (Against exemption certificate)	GST 5% (Against exemption certificate)
<b>Total Cost</b>	<b>Rs. 4,68,840/-</b>	<b>Rs. 4,77,860/-</b>	<b>Rs. 4,73,576/-</b>	<b>Rs. 4,72,269/-</b>

The Purchase-cum-Technical Committee of the Department of Botany, Panjab University, Chandigarh was held on 23.10 2019 in the Office of the Chairperson **to open the Financial Bids and EMD** of the **Double-Beam UV-VIS Spectrophotometer** to be purchased under Council of Scientific and Industrial Research (CSIR), New Delhi sanction Research Project to **Dr. S. K. Upadhyay**. The Purchase/ Technical Committee unanimously recommended that the **One Double-Beam UV-VIS Spectrophotometer** will be purchased from M/s. Himalaya Scientific House, S.C.F. 6, Sector 15-C, Chandigarh, who has quoted the lowest rates of **Rs. 4,68,840/- including GST** etc. and as per required specifications, as desired by the P.I..

(Prof. Daizy Rani)  
Chairperson

(Prof. C. Nirmala)  
Secretary Technical Committee

(Dr. Anju Rao)  
Member

(Dr. Jaspreet Kaur)  
Member

(Dr. Papiya Mukherjee)  
Member

(Dr. S. K. Upadhyay)  
P.I.





# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

E-mail: [skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)

## ADVERTISEMENT DRAFT

### Positions Vacant

Applications on plain paper are invited for the following temporary positions in an project funded by Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, **CSIR** complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” for the period of 3 years or till the completion of Research Project.

1. **Research Associate** One @ Rs 36,000/- fixed p.m. (unrevised).

### Eligibility conditions:

Research Associate: Ph.D. (Botany/ Biotechnology/ Biochemistry). The candidates submitted their Ph.D. thesis can also apply and appear for interview. However, candidate should have Ph. D. Degree/ Awarded at the time of his/her joining. The candidate must have at least one research publication in standard refereed journal as listed in Journal Citation Report (JCR).

**Age Limit:** Maximum 35 years and relaxation up to 5 years in the case of candidates belonging to Schedule Castes/ Schedule Tribes, Women, Physically Handicapped and OBC.

### Job requirements:

- To organize & conduct molecular biology experiments as guided, on plants in the lab & field
- To maintain data and apply appropriate statistical treatment
- To maintain lab., equipments, publish papers and attend / seminars/ conferences
- To prepare the project report
- Candidate having publications in the relevant filed will be preferred.

### Terms & Conditions:

- The position is co-terminus with the completion of the Research Project or even before (at one month notice, if the work and conduct is not found satisfactory).

### How to apply:

Applications on plain paper giving following details must reach the **stipulated date** *Name, Parents' name, postal address, e-mail address and cell-phone number for communication; academic career with details of 10<sup>th</sup>, 10+2, B.Sc. M.Sc and Ph.D. with supporting documents, research publications, experience certificates.*

- Digital application (in pdf format) can also be sent by e-mail ([skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)).
- The hard copy can be brought and submitted at the time of interview, in case of digital application along with all testimonials and original documents.
- No TA/ DA is applicable for attending the interview.

(Dr. S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)  
E-mail: skupadhyay@pu.ac.in

Dean Research  
Panjab University,  
Chandigarh

Ref. No. 325/SKU/Bot

Date: 14.10.2019

Through: The Assistant Registrar (Accounts G&P), P.U., Chandigarh.

Sir,

A research project has been sanctioned by Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” for a period of 3 years.

Under this project, there is a provision to appoint a Research Associate.

I propose to appoint a Research Associate, sanctioned under this project. In order to select a meritorious person, I need to advertise the one temporary post through advertisement, for wider circulation in different universities/ research institutions/ University departments.

You are requested to approve (a) draft advertisement and (b) the following selection committee for the appointment of the above mentioned Research Associate.

1. Dean Research or his nominee (Professor or equivalent)
2. Prof. Daizy Rani, Chairperson, Department of Botany, P.U., Chandigarh
3. Prof. Promila Pathak
4. Dr. Sudhir P. Singh, Scientist, CIAB, Govt. of India, Mohali (External Expert from outside the Panjab University)
5. Dr. S. K. Upadhyay, PI

I shall be grateful.

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

**Subject:** Purchase of **Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer** under Council of Scientific and Industrial Research (CSIR), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 sanctioned Research Project to **Dr. S. K. Upadhyay, P.I.**, Department of Botany, Panjab University, Chandigarh.

1. The Technical/ Purchase Committee unanimously approved/ recommended the purchase of **Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer** in its **meeting held on 29.8.2019** ( copy of the proceeding is enclosed) out of Council of Scientific and Industrial Research (CSIR), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on "Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)" sanctioned Research Project under the budget-head- "**Equipment**".
  - a) Name /Brand of the Article: **(as mentioned in the quotations)**
  - b) Specifications: **Compact Cooling Micro Centrifuge: Vertical Deep Freezer Working Temp. - 20°C electronic Controller Capacity 500 Ltrs. With Stabilizer.** Single door, Front Opening, Door type Hinged, Air Tight Door, Number of shelves-6, Poly Urethane foam Insulation, Semi-automatic Defrosted, Direct cooling, Storage chamber temperature display, Audio alarm visual alarm digital display visual alarm digital display. Capacity and dimension : Capacity 500 Liters, Over all length (mm) 1400, Width (mm) 1000, Height (mm) 1000 thickness (mm) 100, Holdover time (Minute: 120, Eco-Friendly Refrigerator, compressor AC Reciprocating, Set Temperature-5, Voltage Single Phase 230V etc. See detail mentioned in the N.I.Q./ Technical comparative Statement.
  - c) Name of Mfg. /Co. Distributor: Through N.I.Q and also upload at P.U. Website.
2. The list of firms / manufacturers etc. / **(copy enclosed)**
3. Sealed Quotations were invited through the N.I.Q. from the different firms so as to reach / **received** the office / Deptt. by due date.
4. Sealed Quotation, Envelopes received within stipulated date were duly **diarized** in the Department/ Office in confirmation of their having been received within stipulated date/ time.
5. The opened envelopes and the quotations bearing signatures with date of the Purchase Committee/ Technical Committee **in its meeting held on 11.10.2019** and committee unanimously recommended the purchase of **Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer** on the basis of lowest rates and as per required specifications as desired by the P.I. (Copy attached).
6. The Quotations were duly opened by the Purchase Committee after affixing their signatures with date on the envelopes.
7. The Technical and Financial Comparative Statement for the **Vertical Deep Freezer Working Temp. - 20°C electronic Controller Capacity 500 Ltrs. With Stabilizer** duly signed by the members of the Technical/ Purchase Committee and recommended the purchase is available (copy attached).

### It is recommended that:

- i) The purchase may be allowed under lowest quotation basis and as per required specifications as desired by the P.I. The Technical/ Purchase Committee unanimously recommended that the **Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer** will be purchased M/s. Himalaya Scientific House, S.C.F. No. 6, Sector 15-C, Chandigarh, who has quoted the lowest rate of **Rs. 3,30,960/- including GST** etc. and as per required specifications, as desired by the Principal Investigator. The quotations were found to be suitable as per our requirements/ specifications for research.
- ii) You are requested that an amount of **Rs. 3,30,960/- (including GST)** may kindly be sanctioned. The expenditure will be met from the Council of Scientific and Industrial Research (CSIR), Extramural Research Division, CSIR complex, PUSA, New Delhi Research Project Grant under the budget head "**Equipment**", where requisite provision exists.

(Dr. S. K. Upadhyay)  
Principal Investigator

Assistant Registrar (Accounts G&P)  
P.U., Chandigarh

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

Certified that the Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Litrs. With Stabilizer to be purchased under Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh. The N.I.Q. of the above mentioned item has been **uploaded in the website** of the Panjab University and remained open till the closing date and time.

(Dr. S. K. Upadhyay)  
Principal Investigator



**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Litrs. With Stabilizer is being purchased as per our requirement for Research under the Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh **and the product is not available on GeM Portal.**

(Dr. S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)  
E-mail: skupadhyay@pu.ac.in

M/s Himalaya Scientific House  
SCF-6 1<sup>st</sup> Floor  
Sector 15-C  
Chandigarh-160 015

Ref. No. \_\_\_\_\_/SKU/Bot  
Date: 21.10.2019

Dear Sir,

This refers to your Quotation No. 5106 dated 7.10.2019. Your quotation has been approved by the authority for the Supply of the following:

**Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer.** Single door, Front Opening, Door type Hinged, Air Tight Door, Number of shelves-6, Poly Urethane foam Insulation, Semi-automatic Defrosted, Direct cooling, Storage chamber temperature display, Audio alarm visual alarm digital display visual alarm digital display. Capacity and dimension : Capacity 500 Liters, Over all length (mm) 1400, Width (mm) 1000, Height (mm) 1000 thickness (mm) 100, Holdover time (Minute: 120, Eco-Friendly Refrigerator, compressor AC Reciprocating, Set Temperature-5, Voltage Single Phase 230V etc. Warranty both parts labour should be minimum of two years.

You are requested to supply the above mentioned item **Vertical Deep Freezer Working Temp. -20°C electronic Controller Capacity 500 Ltrs. With Stabilizer (quantity One No.)** as per the above mentioned specifications or in your quotation at the earliest. As per term and conditions we will arrange the payment. You are further requested that a bill in duplicate may also be sent for payment.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator

## Double-Beam UV-VIS Spectrophotometer

Optical Design: Double-Beam spectrophotometer, Light Source: Xenon flash lam minimum 3/5 years warranty, Detector: Dual silicon Photodiodes, Scan ordinate modes: Absorbance, % transmittance, % Reflectance, etc., Resolution: > 1.6 (Peak-to-valley ration, Wavelength range: 190 - 1100nm, Accuracy:  $\pm 0.8\text{nm}$  (full range 190 – 1100 nm)  $\pm 0.5$  nm, Repeatability: < 0.1 nm, Scanning Speed: < to 6000 nm/ min. variable, Photometric range: >3.5A or above, Display range: -0.3 to 4.0 and Touch, screen LCD panel; 800 x 480; 17.8cm, including Microsoft Windows XP etc., Accuracy: 0.5A:  $\pm 0.004$ , 1  $\pm 0.005$ , 2  $\pm 0.010$ , Monochromator Type: Czerny-turner, Resolution ( Nm ): 1.5, Diraction Grating (lines::Mm): 1200, Source Wavelength - Maximum Nm ): 1100, Number of Cuvettes supplied -inclusive in the scope of supply: 10, Spectral Bandwidth Type : Variable Bandwidth, Internal storage(GB): 8 Gb, Display type: LCD with Backlight, Display: In-built display, Mximum Path Length of sample: 120 mm, Power Supply: 230 V  $\pm 10$ , 50 Hz, Scanning Speed (nm/min): 4200, Experience of the supplier with Govt. Institute: 15 year Min., MSE Certificate: Required and Warranty both parts labour should be minimum of two years.

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

Certified that the **Double-Beam UV-VIS Spectrophotometer** to be purchased under Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh. The N.I.Q. of the above mentioned item has been **uploaded in the website** of the Panjab University and remained open till the closing date and time.

(Dr. S. K. Upadhyay)  
Principal Investigator

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product **Double-Beam UV-VIS Spectrophotometer** is being purchased as per our requirement for Research under the Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh **and the product is not available on GeM Portal.**

(Dr. S. K. Upadhyay)  
Principal Investigator

## DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH

**Subject:** Purchase of **Double-Beam UV-VIS Spectrophotometer** under Council of Scientific and Industrial Research (CSIR), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 sanctioned Research Project to **Dr. S. K. Upadhyay, P.I.**, Department of Botany, Panjab University, Chandigarh.

1. The Technical/ Purchase Committee unanimously approved/ recommended the purchase of **Double-Beam UV-VIS Spectrophotometer** in its meeting held on **29.8.2019** (copy of the proceeding is enclosed) out of Council of Scientific and Industrial Research (CSIR), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on "Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)" sanctioned Research Project under the budget-head- "**Equipment**".
  - a) Name /Brand of the Article: **(as mentioned in the quotations)**
  - b) Specifications: **Double-Beam UV-VIS Spectrophotometer** Optical Design: Double-Beam spectrophotometer, Light Source: Xenon flash lam minimum 3/5 years warranty, Detector: Dual silicon Photodiodes, Scan ordinate modes: Absorbance, % transmittance, % Reflectance, etc., Resolution: > 1.6 (Peak-to-valley ration, Wavelength range: 190 - 1100nm, Accuracy:  $\pm 0.8\text{nm}$  (full range 190 – 1100 nm)  $\pm 0.5\text{ nm}$ , Repeatability: < 0.1 nm, Scanning Speed: < to 6000 nm/min. variable, Photometric range: >3.5A or above, Display range: -0.3 to 4.0 and Touch, screen LCD panel; 800 x 480; 17.8cm, including Microsoft Windows XP etc., Accuracy: 0.5A:  $\pm 0.004$ , 1  $\pm 0.005$ , 2  $\pm 0.010$ , Monochromator Type: Czerny-turner, Resolution ( Nm ): 1.5, Diraction Grating (lines::Mm): 1200, Source Wavelength - Maximum Nm ): 1100, Number of Cuvettes supplied - inclusive in the scope of supply: 10, Spectral Bandwidth Type : Variable Bandwidth, Internal storage(GB): 8 Gb, Display type: LCD with Backlight, Display: In-built display, Mximum Path Length of sample: 120 mm, Power Supply: 230 V  $\pm 10$ , 50 Hz, Scanning Speed (nm/min): 4200, Experience of the supplier with Govt. Institute: 15 year Min., MSE Certificate: Required and Warranty both parts labour should be minimum of two years etc. See detail mentioned in the N.I.Q./ Technical comparative Statement.
  - c) Name of Mfg. /Co. Distributor: Through N.I.Q and also upload at P.U. Website.
2. The list of firms / manufacturers etc. / **(copy enclosed)**
3. Sealed Quotations were invited through the N.I.Q. from the different firms so as to reach / **received** the office / Deptt. by due date.
4. Sealed Quotation, Envelopes received within stipulated date were duly **diarized** in the Department/ Office in confirmation of their having been received within stipulated date/ time.
5. The opened envelopes and the quotations bearing signatures with date of the Purchase Committee/ Technical Committee **in its meeting held on 23.10.2019** and committee unanimously recommended the purchase of **Double-Beam UV-VIS Spectrophotometer** on the basis of lowest rates and as per required specifications as desired by the P.I. (Copy attached).
6. The Quotations were duly opened by the Purchase Committee after affixing their signatures with date on the envelopes.
7. The Technical and Financial Comparative Statement for the **Double-Beam UV-VIS Spectrophotometer** duly signed by the members of the Technical/ Purchase Committee and recommended the purchase is available (copy attached).

### It is recommended that:

- i) The purchase may be allowed under lowest quotation basis and as per required specifications as desired by the P.I. The Technical/ Purchase Committee unanimously recommended that the **Double-Beam UV-VIS Spectrophotometer** will be purchased M/s. Himalaya Scientific House, S.C.F. No. 6, Sector 15-C, Chandigarh, who has quoted the lowest rate of **Rs. 4,68,840/- including GST** etc. and as per required specifications, as desired by the Principal Investigator. The quotations were found to be suitable as per our requirements/ specifications for research.
- ii) You are requested that an amount of **Rs. 4,68,840/- (including GST)** may kindly be sanctioned. The expenditure will be met from the Council of Scientific and Industrial Research (CSIR), Extramural Research Division, CSIR complex, PUSA, New Delhi Research Project Grant under the budget head "**Equipment**", where requisite provision exists.

(Dr. S. K. Upadhyay)  
Principal Investigator

Assistant Registrar (Accounts G&P)  
P.U., Chandigarh



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. \_\_\_\_\_

**October 23, 2019**

M/s Himalaya Scientific House  
SCF-6 1<sup>st</sup> Floor  
Sector 15-C  
Chandigarh-160 015

Dear Sir,

Kindly supply the following item(s) and also send a bill in duplicate to the under signed for payment. Special discount for Universities /Institutions may please be mentioned in your bill.

1. Oligo-10nm (HPSF):           Quantity:    1765 Nos.

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estded. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

**Ref. 205/SKU/Bot**

**October 23, 2019**

## PURCHASE CERTIFICATE

Certified that **Acetonitrile HPLC 2.5 LIT X 4** is to be purchased under the budget-head “Consumable” in the Research Project sanctioned by the Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” to **Dr. S. K. Upadhyay, P.I.**, Department of Botany, Panjab University, Chandigarh. The Acetonitrile HPLC 2.5 LIT is required for research work in the above mentioned research project.

(S. K. Upadhyay)  
Principal Investigator





# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

Ref. 206/SKU/Bot

October 23, 2019

## PURCHASE CERTIFICATE

Certified that **Membrane Filter 47mm, 0.45um (Sterile) (11)** is to be purchased under the budget-head “Consumable” in the Research Project sanctioned by the Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” to **Dr. S. K. Upadhyay, P.I.**, Department of Botany, Panjab University, Chandigarh. The Membrane Filter 47mm, 0.45um (Sterile) (11) is required for research work in the above mentioned research project.

(S. K. Upadhyay)

Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

**Ref. 207/SKU/Bot**

**October 23, 2019**

## PURCHASE CERTIFICATE

Certified that **Acetone AR 2.5 Liter (Fisher) X 10** is to be purchased under the budget-head “Consumable” in the Research Project sanctioned by the Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” to **Dr. S. K. Upadhyay, P.I.**, Department of Botany, Panjab University, Chandigarh. The Acetone AR 2.5 Liter (Fisher) X 10 is required for research work in the above mentioned research project.

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

**Ref. 208/SKU/Bot**

**October 24, 2019**

## PURCHASE CERTIFICATE

Certified that **Petri dish 150 MM (57305) Track (Qty 100)** is to be purchased under the budget-head “Consumable” in the Research Project sanctioned by the Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” to **Dr. S. K. Upadhyay, P.I.**, Department of Botany, Panjab University, Chandigarh. The Petri dish 150 MM (57305) Track (Qty 100) is required for research work in the above mentioned research project.

(S. K. Upadhyay)

Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

**Ref. 209/SKU/Bot**

**October 24, 2019**

## PURCHASE CERTIFICATE

Certified that **Whatman Filter Paper Grade 40m Ashless, 125 (Qty 6)** is to be purchased under the budget-head “Consumable” in the Research Project sanctioned by the Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” to **Dr. S. K. Upadhyay, P.I.**, Department of Botany, Panjab University, Chandigarh. The Whatman Filter Paper Grade 40m Ashless, 125 (Qty 6) is required for research work in the above mentioned research project.

(S. K. Upadhyay)

Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

**Ref. 210/SKU/Bot**

**October 24, 2019**

## PURCHASE CERTIFICATE

Certified that **Toluene Chemical (Qty 4)** is to be purchased under the budget-head “Consumable” in the Research Project sanctioned by the Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” to **Dr. S. K. Upadhyay, P.I.**, Department of Botany, Panjab University, Chandigarh. The Toluene (Qty 4) is required for research work in the above mentioned research project.

(S. K. Upadhyay)

Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

M/s Himalaya Scientific House  
SCF-6 1<sup>st</sup> Floor  
Sector 15-C  
Chandigarh-160 015

Ref. 401/SKU/Bot

September 3, 2019

Dear Sir,

Kindly supply the following item(s) and also send a bill in duplicate to the under signed for payment. Special discount for Universities /Institutions may please be mentioned in your bill.

1. Ply (D,L-lactide-co-glycol) Sigma                      Quantity:    1.00 Unit

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Estded. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

M/s Himalaya Scientific House  
SCF-6 1<sup>st</sup> Floor  
Sector 15-C  
Chandigarh-160 015

Ref. 408/SKU/Bot

September 12, 2019

Dear Sir,

Kindly supply the following item(s) and also send a bill in duplicate to the under signed for payment. Special discount for Universities /Institutions may please be mentioned in your bill.

1. GenElute™ HP Plasmid Midiprep Kit                      Quantity:     1.00 Unit

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

M/s Bhartiya Chemical Traders  
SCO – 159 (Top Floor)  
Sector 24-C  
Chandigarh-160 015

Ref. 409/SKU/Bot

September 12, 2019

Dear Sir,

Kindly supply the following item(s) and also send a bill in duplicate to the under signed for payment. Special discount for Universities /Institutions may please be mentioned in your bill.

1. B-D-Galactose Pentaacetate (SRL)                      Quantity:      1.00 Unit

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator





# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estded. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

M/s Himalaya Scientific House  
SCF-6 1<sup>st</sup> Floor  
Sector 15-C  
Chandigarh-160 015

Ref. 415/SKU/Bot

September 23, 2019

Dear Sir,

Kindly supply the following item(s) and also send a bill in duplicate to the under signed for payment. Special discount for Universities /Institutions may please be mentioned in your bill.

1. D-Phenylalanine Extrapure CHR 99% (SRL)                      Quantity:      1.00 Unit

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

M/s Bhartiya Chemical Traders  
SCO – 159 (Top Floor)  
Sector 24-C  
Chandigarh-160 015

Ref. 416/SKU/Bot

September 23, 2019

Dear Sir,

Kindly supply the following item(s) and also send a bill in duplicate to the under signed for payment. Special discount for Universities /Institutions may please be mentioned in your bill.

1. M.SD Base Broth (Clonotech)                      Quantity:    1.00 Unit

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

M/s Bhartiya Chemical Traders  
SCO – 159 (Top Floor)  
Sector 24-C  
Chandigarh-160 015

Ref. 419/SKU/Bot

October 3, 2019

Dear Sir,

Kindly supply the following item(s) and also send a bill in duplicate to the under signed for payment. Special discount for Universities /Institutions may please be mentioned in your bill.

1. Quaprep KIT (Qiagen)                      Quantity:    1.00 Unit

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estded. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

M/s Himalaya Scientific House  
SCF-6 1<sup>st</sup> Floor  
Sector 15-C  
Chandigarh-160 015

Ref. 423/SKU/Bot

October 10, 2019

Dear Sir,

Kindly supply the following item(s) and also send a bill in duplicate to the under signed for payment. Special discount for Universities /Institutions may please be mentioned in your bill.

1. D-Phenylalanine Extrapure CHR 99% (SRL)                      Quantity:      1.00 Unit

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

M/s Bhartiya Chemical Traders  
SCO – 159 (Top Floor)  
Sector 24-C  
Chandigarh-160 015

Ref. 427/SKU/Bot

October 11, 2019

Dear Sir,

Kindly supply the following item(s) and also send a bill in duplicate to the under signed for payment. Special discount for Universities /Institutions may please be mentioned in your bill.

- |    |                                  |           |           |
|----|----------------------------------|-----------|-----------|
| 1. | Sodium Lauryl sulphate Extrapure | Quantity: | 3.00 Unit |
| 2. | TRIS Base (Fisher) 500GM         | -do-      | 2.00 Unit |

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

M/s Bhartiya Chemical Traders  
SCO – 159 (Top Floor)  
Sector 24-C  
Chandigarh-160 015

Ref. 429/SKU/Bot

October 14, 2019

Dear Sir,

Kindly supply the following item(s) and also send a bill in duplicate to the under signed for payment. Special discount for Universities /Institutions may please be mentioned in your bill.

1.	DAB (50X) SRL	Quantity:	3.00 Units
2.	Agarose Low EEO SRL	-do-	2.00 Units

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estded. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**

*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

M/s Bhartiya Chemical Traders  
SCO – 159 (Top Floor)  
Sector 24-C  
Chandigarh-160 015

Ref. 436/SKU/Bot

October 21, 2019

Dear Sir,

Kindly supply the following item(s) and also send a bill in duplicate to the under signed for payment. Special discount for Universities /Institutions may please be mentioned in your bill.

1. 1,4-Dichlorophenacyl Chloride (Himedia)      Quantity:      1.00 Unit

Thanking you,

Yours sincerely,

(S. K. Upadhyay)  
Principal Investigator







**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product **Ply (D,L-lactide-co-glycol) Sigma** is being purchased as per our requirement for Research under the Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh **and the product is not available on GeM Portal.**

(Dr. S. K. Upadhyay)  
Principal Investigator

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product **GenElute™ HP Plasmid Midiprep Kit** is being purchased as per our requirement for Research under the Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh **and the product is not available on GeM Portal.**

(Dr. S. K. Upadhyay)  
Principal Investigator

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product **B-D-Galactose Pentaacetate (SRL)** is being purchased as per our requirement for Research under the Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh **and the product is not available on GeM Portal.**

(Dr. S. K. Upadhyay)  
Principal Investigator

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product **D-Phenylalanine Extrapure CHR 99% (SRL)** is being purchased as per our requirement for Research under the Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh **and the product is not available on GeM Portal.**

(Dr. S. K. Upadhyay)  
Principal Investigator

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product **M.SD Base Broth (Clonetech)** is being purchased as per our requirement for Research under the Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh **and the product is not available on GeM Portal.**

(Dr. S. K. Upadhyay)  
Principal Investigator

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product **Quaprep KIT (Qiagen)** is being purchased as per our requirement for Research under the Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh **and the product is not available on GeM Portal.**

(Dr. S. K. Upadhyay)  
Principal Investigator

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product **D-Phenylalanine Extrapure CHR 99% (SRL)** is being purchased as per our requirement for Research under the Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh **and the product is not available on GeM Portal.**

(Dr. S. K. Upadhyay)  
Principal Investigator



**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product **Sodium Lauryl sulphate Extrapure and TRIS Base (Fisher) 500GM** is being purchased as per our requirement for Research under the Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh **and the product is not available on GeM Portal.**

(Dr. S. K. Upadhyay)  
Principal Investigator

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product **1,4-Dichlorophenacyl Chloride (Himedia)** is being purchased as per our requirement for Research under the Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh **and the product is not available on GeM Portal.**

(Dr. S. K. Upadhyay)  
Principal Investigator

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product **1,4-Dichlorophenacyl Chloride (Himedia)** is being purchased as per our requirement for Research under the Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh **and the product is not available on GeM Portal.**

(Dr. S. K. Upadhyay)  
Principal Investigator

**DEPARTMENT OF BOTANY, PANJAB UNIVERSITY, CHANDIGARH**

**CERTIFICATE**

It is certified that the product **DAB and Agarose Low EEO (SRL)** is being purchased as per our requirement for Research under the Research Project Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, CSIR complex, PUSA, New Delhi-110 012 on “Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)” sanction to Dr. S. K. Upadhyay, P.I., Department of Botany, P.U., Chandigarh **and the product is not available on GeM Portal.**

(Dr. S. K. Upadhyay)  
Principal Investigator





# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
*Principal Investigator*

☎ (91) (0172) 2534001 (Off.)

**Ref. 330/SKU/Bot**

**November 1, 2019**

M/s Himalaya Scientific House  
SCF-6 1<sup>st</sup> Floor  
Sector 15-C  
Chandigarh-160 015

Dear Sir,

This refers to your Quotation No. 5110 dated 17.10.2019. Your quotation has been approved by the authority for the Supply of the following:

**Double-Beam UV-VIS Spectrophotometer (Make: Thermo Fisher)**

Optical Design: Double-Beam spectrophotometer, Light Source: Xenon flash lam minimum 3/5 years warranty,

Detector: Dual silicon Photodiodes, Scan ordinate modes: Absorbance, % transmittance, % Reflectance, etc., Resolution: > 1.6 (Peak-to-valley ration, Wavelength range: 190 - 1100nm, Accuracy:  $\pm 0.8\text{nm}$  (full range 190 – 1100 nm)  $\pm 0.5\text{ nm}$ , Repeatability: < 0.1 nm, Scanning Speed: < to 6000 nm/ min. variable, Photometric range: >3.5A or above, Display range: -0.3 to 4.0 and Touch, screen LCD panel; 800 x 480; 17.8cm, including Microsoft Windows XP etc., Accuracy: 0.5A:  $\pm 0.004$ , 1  $\pm 0.005$ , 2  $\pm 0.010$ , Monochromator Type: Czerny-turner, Resolution ( Nm ): 1.5, Diraction Grating (lines::Mm): 1200, Source Wavelength - Maximum Nm ): 1100, Number of Cuvettes supplied -inclusive in the scope of supply: 10, Spectral Bandwidth Type : Variable Bandwidth, Internal storage(GB): 8 Gb, Display type: LCD with Backlight, Display: In-built display, Mximum Path Length of sample: 120 mm, Power Supply: 230 V  $\pm 10$ , 50 Hz, Scanning Speed (nm/min): 4200, Experience of the supplier with Govt. Institute: 15 year Min., MSE Certificate: Required and Warranty both parts labour should be minimum of two years.

You are requested to supply the above mentioned item **Double-Beam UV-VIS Spectrophotometer: Make: Thermo Fisher (quantity One No.)** as per the above mentioned specifications or in your quotation at the earliest. As per term and conditions we will arrange the payment. You are further requested that a bill in duplicate may also be sent for payment.

Thanking you,

Yours faithfully,

(S. K. Upadhyay)  
Principal Investigator



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY

CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

**Dr. S. K. Upadhyay**  
Principal Investigator

☎ (91) (0172) 2534001 (Off.)  
E-mail: [skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)

Ref. No. 342 -356/SKU/Bot  
Date: 04.11.2019

## ADVERTISEMENT DRAFT

### Positions Vacant

Applications on plain paper are invited for the following temporary positions in an project funded by Council of Scientific and Industrial Research (**CSIR**), Extramural Research Division, **CSIR** complex, PUSA, New Delhi-110 012 on "Molecular cloning and characterization of TaNCL2 Protein(s) from Bread Wheat (*Triticum aestivum* L.)" for the period of 3 years or till the completion of Research Project.

1. **Research Associate One @ Rs 36,000/- fixed p.m. (unrevised).**

### Eligibility conditions:

Research Associate: Ph.D. (Botany/ Biotechnology/ Biochemistry). The candidates submitted their Ph.D. thesis can also apply and appear for interview. However, candidate should have Ph. D. Degree/ Awarded at the time of his/her joining. The candidate must have at least one research publication in standard refereed journal as listed in Journal Citation Report (JCR).

**Age Limit:** Maximum 35 years and relaxation up to 5 years in the case of candidates belonging to Schedule Castes/ Schedule Tribes, Women, Physically Handicapped and OBC.

### Job requirements:

- To organize & conduct molecular biology experiments as guided, on plants in the lab & field
- To maintain data and apply appropriate statistical treatment
- To maintain lab., equipments, publish papers and attend / seminars/ conferences
- To prepare the project report
- Candidate having publications in the relevant filed will be preferred.

### Terms & Conditions:

- The position is co-terminus with the completion of the Research Project or even before (at one month notice, if the work and conduct is not found satisfactory).

### How to apply:

Applications on plain paper giving following details must reach the **undersigned latest by the November 22, 2019, date Name, Parents' name, postal address, e-mail address and cell-phone number for communication; academic career with details of 10<sup>th</sup>, 10+2, B.Sc. M.Sc and Ph.D. with supporting documents, research publications, experience certificates.**

- Digital application (in pdf format) can also be sent by e-mail ([skupadhyay@pu.ac.in](mailto:skupadhyay@pu.ac.in)).
- The hard copy can be brought and submitted at the time of interview, in case of digital application along with all testimonials and original documents.
- No TA/ DA is applicable for attending the interview.

(Dr. S. K. Upadhyay)  
Principal Investigator