

No. BT/PR25058/NER/95/989/2017

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY

Block 2, 6-8th Floors
CGO Complex, Lodhi Road,
New Delhi- 110 003
Dated: / /

ORDER

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules ,1978 , for the implementation of the project entitled: "**Exploration of endophytic microorganisms from selected indigenous rice landraces of North-East India and their applications for improvement of growth and yield of traditional rice varieties**" for a period of 3 Year 0 Month at a total cost of Rs. **6367992** (Rupees Sixty Three Lakhs Sixty Seven Thousand Nine Hundred and Ninety Two Only) on the terms and conditions detailed here under:-

2 The Project :

2.1 Title : "**Exploration of endophytic microorganisms from selected indigenous rice landraces of North-East India and their applications for improvement of growth and yield of traditional rice varieties**"

2.2 Details of the Investigators:

Project Cordinator

Dr. Kumananda Tayung

Professor
Botany
Gauhati University
Dept. of Botany,
Gauhati University, Dispur, Assam, 781014

Principal Investigators:

Prof. Kumananda Tayung

Professor
Botany
Gauhati University
Dept. of Botany,
Gauhati University, Dispur, Assam,

Dr. Mrinal Kumar Maiti

Associate Professor
Department of Biotechnology
INDIAN INSTITUTE OF
TECHNOLOGY, KHARAGPUR
Department of Biotechnology

CO-PI:

Prof. Dhurva Kumar Jha

Professor
Botany
Gauhati University
Dept. of Botany, Gauhati University, Guwahati
Gopinath Bordoloi Nagar, Jalukbari, - 781014,
Assam

2.3 Objectives:

Overall Objectives:

1. Selection and isolation of endophytes from selected rice landraces (GU-Assam)
2. Identification of potential endophytes by molecular techniques (IIT-Kharagpur)
3. In vitro screening of endophytes for plant growth promotion by biochemical and genotypic analyses (IIT-Kharagpur)
4. Screening of endophytes for antagonistic study against a few important rice pathogens (GU-Assam)
5. Transcript expression profiling of virulence genes of selected phytopathogens to study the effect of endophytic biocontrol agent(s) (IIT-Kharagpur)
6. Understanding the mechanism of disease management by the developed endophytic consortium (GU-Assam)
7. Evaluation of a few selected endophytic consortia for growth promotion and healthcare of chosen rice cultivars in net-house conditions (IIT-Kharagpur)

Institute wise Objectives:

Gauhati University

1. Selection and isolation of endophytes from selected rice landraces
2. Screening of endophytes for antagonistic study against a few important rice pathogens
3. Understanding the mechanism of disease management by the developed endophytic consortium

INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR

1. Identification of potential endophytes by molecular techniques
2. In vitro screening of endophytes for plant growth promotion by biochemical and genotypic analysis
3. Transcript expression profiling of virulence genes of selected phytopathogens to study the effect of endophy
4. Evaluation of a few selected endophytic consortia for growth promotion and healthcare of chosen rice cultivars in net-house conditions

2.4 Time Schedule:

The duration of the project is 3 Year 0 Month from the date of this sanction order.

2.5 Project Cost:

The total cost of the project is Rs. **6367992/-** (Rupees Sixty Three Lakhs Sixty Seven Thousand Nine Hundred and Ninety Two Only) as per details given below :

Annexure -I

Details of the Equipment sanctioned for the implementation of the project at Gauhati University, Assam. **"Exploration of endophytic microorganisms from selected indigenous rice landraces of North-East India and their applications for improvement of growth and yield of traditional rice varieties":**

Institute	Year I	Year II	Year III	Total Cost (Rs.)		
1. Gauhati University	2310000	760000	702996	3822996		
2. INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR	1095000	705000	744996	2544996		
Gauhati University						
SNo.	Total (Rs.)	Name of Equipment	1447992	No. 6367992	Cost (Rs.)	
1.		Autoclave (cylindrical)		1	396000.00	
2.		Orbital Shaking Incubator		1	340000.00	
3.		Bioincubator			199000.00	
4.		3. Gauhati University Laminar Air Flow Chamber (horizontal)		1	275000.00	
5.		Microscope with digital camera attachment		1	290000.00	
		Manpower	360000.00	360000.00	402996.00	
		Consumables	300000.00	200000.00	100000.00	
		Overhead	100000.00	100000.00	100000.00	
		Contingency	50000.00	50000.00	50000.00	
		Plant microbe (endophyte)	50000.00	50000.00	50000.00	
		Travel	50000.00	50000.00	50000.00	
		chamber				
		4. INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR				
		Total			400000.00	
		Equipment	400000.00		400000.00	
		Manpower	330000.00	330000.00	369996.00	
		Consumables	300000.00	300000.00	300000.00	
		Contingency	25000.00	25000.00	25000.00	
		Travel	15000.00	25000.00	25000.00	
		Overhead	25000.00	25000.00	25000.00	
		Total (Rs.)	1095000.00	705000.00	744996.00	2544996.00

2.6 Equipment:

The details of the equipment sanctioned for the implementation of the project at **Annexure-I**

2.7 Manpower:

The details of the manpower sanctioned for the implementation of the project at **Annexure-II**

3. Head of Account:

The **Non-Recurring** expenditure involved is debitable to:

Demand No. 85	Department of Biotechnology
3425	Other Scientific Research 2018-2019
3425.60	Others (Sub Major Head)
3425.60.200	Assistance to other Scientific Bodies (Minor Head)
3425.60.200.29	Biotechnology Research and Development
3425.60.200.29.17	Assistance for Research and Development
3425.60.200.29.17.35	Grants for creation of capital assets

(Dr. T Madhan Mohan)
Sr. Adviser/Scientist 'H'

The **Recurring** expenditure involved is debitable to:

Demand No. 85	Department of Biotechnology
3425	Other Scientific Research 2018-2019
3425.60	Others (Sub Major Head)
3425.60.200	Assistance to other Scientific Bodies (Minor Head)
3425.60.200.29	Biotechnology Research and Development
3425.60.200.29.17	Assistance for Research and Development
3425.60.200.29.17.31	Grants-in-Aid General

4. Terms & Conditions:

- 4.1** The other terms and conditions governing this sanction are attached at Annexure- III.
- 4.2A** Memorandum of Agreement (MoA) will be signed between the Department of Biotechnology and the grantee institution on Non-Judicial stamp paper Rs. 100/- in the enclosed format and the second release/installment will be made only after signing of MoA by the grantee institutions and its acceptance by DBT. In case of NGO or Private Institution, MOA signed is mandatory first release. A format of the MoA is enclosed in Annexure-IV
- 4.3** The Institute/Agency will keep the whole of the grant in a Bank Account earning interest, and the interest so earned should be reported to DBT in the Utilisation Certificate and Statement of Expenditure. The Interest so earned will be treated as created to the institute/Agency and shall be adjusted towards further installment of the grant and or at the time of Final Settlement of Accounts.
- 5.** No International Travel will be undertaken from the sanctioned project grant unless specified otherwise.
- 6.** The Director, INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR, Kharagpur, West Bengal and The Registrar, Gauhati University, Guwahati, Assam would be responsible for submission of Statements of Expenditure (SoE), utilization certificates (UC), Assets Certificates, Manpower staffing & expenditure details in prescribed DBT formats to DBT in respect of grants released in this project from time to time.
- 7.** PI's of DBT sponsored projects can consider appointment of JRF from Category-II merit list of DBT-BET exam so that candidates can be paid fellowships at par with NET/GATE/BET qualified candidates as per DST OM No. A.SR/S9/Z-09/2012 dated on 21 Oct 2014. However, there is no compulsion on PI's to select candidates for JRF in their projects from Category-II of DBT-BET.
- 8.** As per Rule 236 (1) of GFR 2017, the accounts of all Grantee Institutions or Organisations shall be open to inspection by the sanctioning authority and audit, both by the Comptroller and Auditor General of India under the provision of CAG(DPC) Act 1971 and internal audit by the Principal Accounts Office of the Ministry or Department, whenever the Institution or Organisation is called upon to do so.
- 9.** If the Research Project involves biological resource, the obligations under the Biological Diversity Act 2002 as applicable shall be complied with by the Project Investigator, the details of such obligations can be accessed at www.nbaindia.org
- 10.** This issues under the power delegated to this Department and with the concurrence of IFD vide their SAN No. **102/IFD/SAN/379/2018-2019** dated **May, 16 2018**.
- 11.** This sanction order has been noted at serial no. _____ in the Register of Grants.

(Dr. T Madhan Mohan)
Sr.Adviser/Scientist 'H'

To,

The Pay & Accounts Officer,
Department of Biotechnology,
New Delhi – 110 003.

Copy to:

- 1 The Principal Director of Audit (Scientific Departments), DACR Building, New Delhi- 110 002.
- 2 Dr. Kumananda Tayung(Project Co-ordinator), Dept. of Botany, Gauhati University, Guwahati
Gopinath Bordoloi Nagar, Jalukbari
- 3 The Director, INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR, , Kharagpur - 721302, West Bengal
- 4 The Registrar, Gauhati University, Gopinath Bordoloi nagar,, Guwahati University, Guwahati - 781014, Assam
- 5 Dr. Mrinal Kumar Maiti, Associate Professor, Department of Biotechnology, INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR, Department of Biotechnology
Indian Institute of Technology Kharagpur
Kharagpur-721302, Kharagpur - 721302, West Bengal
- 6 Prof. Dhurva Kumar Jha, Professor, Botany, Gauhati University, Dept. of Botany, Gauhati University, Guwahati
Gopinath Bordoloi Nagar, Jalukbari, - 781014, Assam
- 7 Prof. Kumananda Tayung, Professor, Botany, Gauhati University, Dept. of Botany, Gauhati University, Dispur - 781014, Assam
- 8 Cash Section, DBT (2 copies).
- 9 Sanction Folder.
- 10 File Copy.

(Dr. T Madhan Mohan)
Sr.Adviser/Scientist 'H'

Annexure -II

Details of the manpower sanctioned for the implementation of the project titled "**Exploration of endophytic microorganisms from selected indigenous rice landraces of North-East India and their applications for improvement of growth and yield of traditional rice varieties**":

Head	No. of Position	Year I	Year II	Year III	Total (Rs.)
3. Gauhati University					
Junior Research Fellow One JRF: M. Sc. Degree in Botany/biotechnology/Microbiology with NET is needed for carrying out extensive field travel for collection of samples, isolation, purification, and identification	1	360000.00	360000.00		720000.00
Senior Research Fellow One SRF: M. Sc. Degree in Botany/biotechnology/Microbiology with NET is needed for carrying out extensive field travel for collection of samples, isolation, purification, and identification	1			402996.00	402996.00
Total(Rs.)		360000.00	360000.00	402996.00	1122996.00
4. INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR					
Junior Research Fellow One JRF will be required for smooth carrying out the project work which involved identification of endophytes and their molecular analysis	1	330000.00	330000.00		660000.00
Senior Research Fellow JRF will be upgraded into SRF after successfully competing 2 years of project work	1			369996.00	369996.00
Total(Rs.)		330000.00	330000.00	369996.00	1029996.00

Emoluments detail of research personal(s) mentioned in table(s) of Annexure-II shall be applicable only if candidate(s) met educational qualification and eligibility criteria as per DST OM No.SR/S9/Z-09/2012 dated 21.10.2014.

(Dr. T Madhan Mohan)
Sr.Adviser/Scientist 'H'