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No. BT/PR24757/NER/95/843/2017
GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY
(NER-BPMC)

Appl. No.: Agri/2017/29

Block 2, 6-8th Floors
CGO Complex, Lodhi Road,
New Delhi- 110 003
Dated 26/07/2018

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: **"Integrative systems biology approach to identify the molecular response signatures in Rice during concurrent biotic (Rhizoctonia solani) and abiotic (heat) stresses"** for a period of 3 Year 0 Month at a total cost of Rs. **8296988** (Rupees Eighty Two Lakhs Ninety Six Thousand Nine Hundred and Eighty Eight Only) on the terms and conditions detailed here under:-

2 The Project :

2.1 Title : **"Integrative systems biology approach to identify the molecular response signatures in Rice during concurrent biotic (Rhizoctonia solani) and abiotic (heat) stresses"**

2.2 Details of the Investigators:

Project Coordinator

Dr. Pankaj Barah
Assistant Professor & DBT-Ramalingaswamy Fellow
Dept. of Molecular Biology and Biotechnology, Tezpur Central University
Napaam, Tezpur, Assam, 784028

Principal Investigators:

Dr. Pankaj Barah
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Dept. of Molecular Biology and Biotechnology, Tezpur Central University
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Nandak. Pankaj

Pankaj Barah

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Department of Plant Sciences
University of Hyderabad
Gachi Bowli, Hyderabad, Andhra
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CO-PI:

Prof. Suvendra Kumar Ray
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Prof. Padmaja Gudipalli
Professor
Department of Plant Sciences, School of Life
Sciences, University of Hyderabad, Central
University P.O., Prof. C. R. Rao Road,
Gachibowli, Telangana, Hyderabad - 500046,
Telangana

2.3 Objectives:

Overall Objectives:

1. Integrative systems biology approach to identify the molecular stress response signatures, stress regulatory networks and signaling crosstalk events in Rice, during concurrent exposure to combination of temperature and pathogen stress.
2. To use activation tagged rice population for screening novel tagged mutants which are resistance against *R. solani* pathogen.

Institute wise Objectives:

Tezpur University

1. Transcriptomics analysis of the single and concurrent exposure of heat and pathogen (*R. solani*) stresses on the widely cultivated rice varieties in India, BPT-5204.
2. To develop a public knowledgebase, and a modular cum scalable meta-analysis workbench for studying the combined stress responses patterns in rice.
3. To develop a mechanistic understanding of temperature modulated pathogenic behavior of *R. solani* on rice plant through Integration of heterogeneous omics data.

University of Hyderabad

1. Growing the plants and conducting stress experiments.
2. Proteomic and metabolomics analysis

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Venigala Jayashankar

Pankaj Kumar

Institute	Year I	Year II	Year III	Total Cost (Rs.)
1. Tezpur University	3930000	930000	769996	5629996
2. University of Hyderabad	890000	890000	886992	2666992
Total (Rs.)	4820000	1820000	1656988	8296988

Institute wise details are:

Budget Head	Year I	Year II	Year III	Total (Rs.)
1. Tezpur University				
Equipment	5000000.00			5000000.00
Manpower	530000.00	350000.00	369996.00	1629996.00
Contingency	50000.00	50000.00	50000.00	150000.00
Travel	50000.00	50000.00	50000.00	150000.00
Consumables	400000.00	400000.00	200000.00	1000000.00
Overhead	100000.00	100000.00	100000.00	300000.00
Total (Rs.)	3930000.00	930000.00	769996.00	5629996.00
2. University of Hyderabad				
Manpower	390000.00	390000.00	436992.00	1216992.00
Overhead	50000.00	50000.00	50000.00	150000.00
Contingency	50000.00	50000.00	50000.00	150000.00
Travel	50000.00	50000.00	50000.00	150000.00
Consumables	350000.00	350000.00	300000.00	1000000.00
Total (Rs.)	890000.00	890000.00	886992.00	2666992.00

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:

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Vandana Singh

Sanjay Kumar

Demand No. 85	Department of Biotechnology
425	Other Scientific Research 2018-2019
425.60	Others (Sub Major Head)
425.60.200	Assistance to other Scientific Bodies (Minor Head)
425.60.200.29	Biotechnology Research and Development
425.60.200.29.17	Assistance for Research and Development
425.60.200.29.17.35	Grants for creation of capital assets

Recurring expenditure involved is debit to:

Demand No. 85	Department of Biotechnology
425	Other Scientific Research 2018-2019
425.60	Others (Sub Major Head)
425.60.200	Assistance to other Scientific Bodies (Minor Head)
425.60.200.29	Biotechnology Research and Development
425.60.200.29.17	Assistance for Research and Development
425.60.200.29.17.31	Grants-in-Aid General

Terms & Conditions:

Additional Terms and Conditions specific for Twinning R and D program for NER:

Both NER and Rest of India RoI Institutions scientists should work together for the objectives stated in the sanction of the project and any deviation from this would attract closure of the project at any point of time.

In the project review meetings, both the PIs from NER and RoI Institutions should participate and make presentation.

The outcomes of the project such as research papers, patents, copy rights etc. should be made jointly.

The NER Scientists are to be trained at the collaborating Institute appropriately to empower the RoI Scientists.

The project personal such as Research Associate, JRF or SRF, Research Assistant are also to be trained at least once in the collaborating national Institute.

The collaborating Institute scientist should visit NER Institutions more frequently to guide NER Scientists in design and conduct of experiments.

Other terms and conditions governing this sanction are attached at Annexure- III.

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 Vimala Bajaj

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