

(Application No. Administrative
ED/2015/102)

File No. BT/PR15941/NER/95/33/2015
GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY
(NER BPMC)

Block-2, 7th Floor,
CGO Complex, Lodhi Road
New Delhi-110003

Dated: 18 / 10 / 2016

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 under 'DBT's Twinning programme for the NE' titled "Nanoparticle based approach to enhance the AMP efficacy against AMP resistant bacteria" by Dr. Anupam Nath Jha, Tezpur University, Assam and Dr. Suman Jha, National Institute of Technology, Rourkela, Odisha at a total cost of ₹ 37.79 lakhs (Rupees Thirty Seven Lakhs and Seventy Nine Thousand Only) for a period of three years, on the terms and conditions detailed as under:

2.0 The Project:

2.1 Project Title: Nanoparticle based approach to enhance the AMP efficacy against AMP resistant bacteria.

2.2 Project Investigators

2.2.1 Principal Investigator: Dr. Anupam Nath Jha
(Parent Institute) Assistant Professor
Dept. of Molecular Biology & Biotechnology
Tezpur University, Tezpur, Napaam
Assam-784028

2.2.2 Principal Investigator: Dr. Suman Jha
(Collaboration Institute) Assistant professor
Dept. of Life Science,
National Institute of Technology,
Rourkela, Odisha-769008, India

2.3 Objectives:

Tezpur University, Assam:

1. Identification and data collection of antimicrobial peptides (AMP)
2. Computational analysis of different structural characteristics and functional properties of AMP
3. Interaction study of NP-AMP using molecular docking
4. Time based evaluation of interaction mechanism of NP-AMP interface by molecular dynamics simulation
5. Study of the importance of functional groups on NP surface affecting the interaction pattern
6. Formulation for enhancing the efficacy of AMP

National Institute of Technology, Rourkela

1. Synthesis and characterization of photocatalytic nanoparticles like ZnONP, ION AgNP, Alum nanoparticle etc.
2. Binding thermodynamics of identified AMPs with the synthesised nanoparticle extensively, using ITC. Conformational dynamics of AMPs upon conjugation binding to the nanoparticle using CD spectropolarimeter, ATR-FTIR, etc.
3. Modification of accessible functional groups of the nanoparticles (according to the simulation results), and characterization of the modifications.
4. Investigation of binding thermodynamics and conformational dynamics of AMP upon conjugation with the surface modified nanoparticles.
5. Investigation of the AMP-NP conjugates antimicrobial activity against sensitive and membrane based resistant bacteria
6. Comparative study of the AMP-NP conjugates antimicrobial activity against enzyme based, membrane base resistant bacteria with sensitive bacteria.

2.4 Time Schedule:

The duration of the project is **three years** from the date of issue of sanction order.

2.5 Equipment Details:

2.5.1 Tezpur University, Assam

Sl. No.	Description of equipment	Grant Recommended (Rupees in lakhs)
1.	Computer workstation (2)	10.00
Total		10.00

2.5.2 National Institute of Technology, Rourkela

NIL

2.6 Manpower:

Fellowship Conditions:

A year wise detail of manpower as proposed has been furnished below. HRA will be as per the Govt. Norms, an indication as stated below for the JRF and SRF's emoluments will be provided as a part of sanction order. JRF shall be ₹ 25,000/- + HRA for the 1st two years and ₹ 28,000/- + HRA for the 3rd year for SRF and applicable, (JRF - Post graduate Degree in Basic Science with NET qualification or graduate degree in Professional course with NET qualification or post graduate degree in professional course) JRF without NET qualification shall be ₹ 12,000/- + HRA for the 1st two years and ₹ 14,000/- + HRA for the 3rd year for SRF.

- For JRF/SRF/RA salary is as per the revised DST OM SR/S9/Z-09/2012, dated October 21, 2014.

2.6.1 Tezpur University, Assam

S. No.	Position (No.)	Consolidated Emolument	₹ in lakhs			
			1 st Year	2 nd Year	3 rd Year	Total
1.	JRF/SRF(1)	JRF @ ₹ 25,000/- + 10 % HRA for the 1 st & 2 nd yr SRF @ ₹ 28,000/- + 10 % HRA for 3 rd yr	3.30	3.30	3.69	10.29
Total			3.30	3.30	3.69	10.29

NIL

2.7 Budget Estimate:

The total cost of the project is ₹ 37.79 lakhs (Rupees Thirty Seven Lakhs and Seventy Nine Thousand Only) as per budget summary given below:

2.7.1 Tezpur University, Assam

Heads	(₹ in lakhs)			
	1 st Year	2 nd Year	3 rd Year	Total
I. Non-Recurring (Equipment's and accessories)	10.00	0.00	0.00	10.00
Sub Total- I	10.00	0.00	0.00	10.00
II. Recurring				
1. Manpower	3.30	3.30	3.69	10.29
2. Consumables	1.00	1.00	1.00	3.00
4. Travel	0.50	0.50	0.50	1.50
5. Contingency	0.50	0.50	0.50	1.50
6. Overhead charges	1.00	1.00	1.00	3.00
Sub Total- II (1-6)	6.30	6.30	6.69	19.29
GRAND TOTAL (I+II)	16.30	6.30	6.69	29.29

2.7.2 National Institute of Technology, Rourkela

Heads	(₹ in lakhs)			
	1 st Year	2 nd Year	3 rd Year	Total
I. Non-Recurring (Equipment's and accessories)	0.00	0.00	0.00	0.00
Sub Total- I	0.00	0.00	0.00	0.00
II. Recurring				
1. Manpower	0.00	0.00	0.00	0.00
2. Consumables	2.00	2.00	1.00	5.00
3. Travel	0.50	0.50	0.00	1.00
4. Contingency	0.00	0.50	0.50	1.00
5. Overhead charges	0.50	0.50	0.50	1.50
Sub Total- II (1-5)	3.00	3.50	2.00	8.50
GRAND TOTAL (I+II)	3.00	3.50	2.00	8.50

(i) Grand total for 3 years (₹ 29.29 + ₹ 8.50) = ₹ 37.79 lakhs


(ii) Total for 1st year release (₹ 16.30 + ₹ 3.00) = ₹ 19.30 lakhs

Other Terms & Conditions:

The other terms and conditions governing this sanction are attached at Annexure-I.

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- 2.8.2 A Memorandum of Agreement (MoA) will be signed between the Department of Biotechnology and the grantee institute on a ₹ 100/- stamp paper in the format given as **Annexure II** and the subsequent releases will be made only after signing of MoA by the grantee institute and its acceptance by DBT. All pages need to be signed by the PI and the forwarding authority and the MoA returned to DBT within 30 days of issue of this letter.
- 2.8.3 The Non-recurring items must be procured and installed within 6 month period from the date of sanction.
- 2.8.4 In case the amount of grant-in-aid is refunded, the whole or a part amount of the grant with an interest at 10% per annum there on shall be recovered.
- 2.8.5 No international travel will be undertaken from the sanctioned project grant unless specified otherwise.
- 2.8.6 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 Utilization 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 Account.
- 2.9 Additional Terms & Conditions, specific for Twinning R&D program for NER:**
- 2.9.1 Both NER & 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.
- 2.9.2 In the project review meetings, both the PI's from NER & RoI Institutions should participate & make presentation.
- 2.9.3 The outcomes of the project such as research papers, patents, copy rights etc. should be made jointly.
- 2.9.4 The NER Scientists are to be trained at the collaborating institute appropriately to empower the NER Scientists.
- 2.9.5 The project personal such as Research Associate, JRF/SRF, Research Assistant are also to be trained at least once in the collaborating national institute.
- 2.9.6 The collaborating institute scientist should visit NER institutions more frequently to guide NER scientists in design and conduct of experiments.
- 2.10 This issues under the powers delegated to this Department and with the concurrence of IFD, DBT vide their **Dy. No/102/IFD/SAN/2122/2016-2017 Dated: 22/08/2016.**
- 2.10.1 This sanction order has been noted at **Serial No. 173-174** in the Register of Grants.
- 2.10.2 The accounts of grantee institution shall be open to inspection by sanctioning authority / audit.
- 3.0 M/S Biotech Consortium India Ltd (BCIL), Anuvrat Bhawan, 210, Deen Dayal Upadhyay Marg, New Delhi- 110002, is administrating the North Eastern Region Biotechnology Programme Management Cell (NER-BPMC) of the DBT.


(Dr. T Madhan Mohan)
Adviser, DBT

The Pay & Accounts Officer,
Department of Biotechnology,
New Delhi - 110003

Copy to:

The Principal Director of Audit (Scientific Department), AGCR Building, New Delhi - 110
002.

Cash Section, DBT (For information only).

Sanction Folder.

IFD. DBT.

The Registrar, Tezpur University, Tezpur, Napaam, Assam-784028

The Vice-Chancellor, Tezpur University, Tezpur, Napaam, Assam-784028.

Dr. Anupam Nath Jha, Assistant Professor, Dept. of Molecular Biology & Biotechnology,
Tezpur University, Tezpur, Napaam, Assam-784028.

The Director, National Institute of Technology, Rourkela, Odisha-769008, India

Dr. Suman Jha, Assistant professor, Dept. of Life Science, National Institute of Technology,
Rourkela, Odisha-769008, India.

Concern file.

The Managing Director, Biotech Consortium India Limited, (NER-BPMC), 5th Floor,
Anuvart Bhawan, 210, Deen Dayal Upadhyay Marg, New Delhi- 110002.



(Dr. T Madhan Mohan)
Adviser, DBT

Application No. MED/2015/102

BT/PRI5941/NER/95/33/2015
Government of India
Ministry of Science & Technology
Department of Biotechnology
(NER-BPMC)

Block-2, 7th Floor,
CGO Complex, Lodhi Road,
New Delhi-110003
Dated 22/10/2019

EXTENSION ORDER

In continuation of this Department's sanction order dated 18.10.2016, sanction of the President is hereby accorded to the extension of the project entitled "Nanoparticle based approach to enhance the AMP efficacy against AMP resistant bacteria" for the period of six months i.e. upto 17th April, 2020 within the sanctioned budget. At the end of this period, the following documents may be submitted:

- i. Utilization Certificate (UC) for the entire duration of the project (financial year wise from beginning of the project)
 - ii. Consolidated Statement of Expenditure (SoE) in prescribed DBT format
 - iii. Details of salary disbursed to the manpower during the financial years and details of manpower engaged vis-à-vis sanctioned, counter signed by competent authority
 - iv. Details of assets (list of equipment purchased) as per approved sanction indicating the item cost approved and the actual procurement cost. This needs to be submitted in the DBT format duly signed and attested by Head of the Institute, PI and Finance Officer.
 - v. One copy of the final completion report
 - vi. Documents regarding patents/ technology transfers, if any
 - vii. Interest earned certificate, if any.
 - viii. A certificate/photocopy of the stock registers of the Institute showing that all the equipments (procured for this project) have been taken in the stock register.
 - ix. If there is unspent balance at the end of the project, kindly send a DD in favour of DDO, DBT, New Delhi for final settlement of accounts.
2. The other terms and conditions of the sanction order dated 18.10.2016 remains unaltered.

Vaishali
(Dr. Vaishali Panjabi)
Scientist "E"

Copy to:

1. The Principal Director of Audit (Scientific Department), AGCR Building, New Delhi - 110 002.
2. The Registrar, Tezpur University, Tezpur University, Napaam, Tezpur, Sonitpur, Tezpur - 784028, Assam
3. Dr. Anupam Nath Jha, Assistant Professor, Molecular Biology and Biotechnology, Tezpur University, Dept of MBBT, Tezpur University, Tezpur - 784028, Assam.