

Administrative
(Application No: MAP/2015/17)

File No. BT/PR16149/NER/95/85/2015
GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY
(NER BPMC)

Block-2, 7th Floor,
CGO Complex, Lodhi Road
New Delhi-110003
Dated: 19/1/2017

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 "Studies on antimicrobial and anti-biofilm activities of medicinal plant extracts obtained from North Eastern India against pathogenic bacteria isolated from pigs, cattle and poultry of NER India; and cattle, poultry and ducks of West Bengal" by Prof. Tapan Kumar Dutta, College of Veterinary Sciences & Animal Husbandry, CAU, Mizoram; Dr. Manabendra Mandal, Tezpur University, Tezpur, Assam; Dr. Siddhartha Narayan Joardar, West Bengal University of Animal & Fishery Sciences, Kolkata and Dr. Asifa Qureshi, National Environmental Engineering Research Institute, Nagpur at a total cost of ₹ 150.00 Lakhs (Rupees One Crore Fifty Lakhs Only) for a period of three years, on the terms and conditions detailed as under:

2.0 The Project:

2.1 Project Title: Studies on antimicrobial and anti-biofilm activities of medicinal plant extracts obtained from North Eastern India against pathogenic bacteria isolated from pigs, cattle and poultry of NER India; and cattle, poultry and ducks of West Bengal

2.2 Project Investigators

2.2.1 Principal Investigator (I):
(Parent Institute)

Prof. (Dr.) Tapan Kumar Dutta,
Professor & Head
Department of Veterinary Microbiology,
College of Veterinary Sciences & Animal
Husbandry, Central Agricultural University,
Aizawl, Mizoram-796014.

2.2.2 Co-Investigator:
(Parent Institute)

Dr. Arup Kumar Samanta,
Associate Professor & Head
Department of Animal Nutrition,
College of Veterinary Sciences & Animal
Husbandry, Central Agricultural University,
Aizawl, Mizoram-796014.

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- 2.2.3 Co-Investigator:
(Parent Institute)** Dr. Gunjan Das,
Associate Professor
Department of Veterinary Medicine,
College of Veterinary Sciences & Animal
Husbandry, Central Agricultural University,
Aizawl, Mizoram-796014.
- 2.2.4 Co-Investigator:
(Parent Institute)** Dr. Parimal Roychoudhury,
Associate Professor
Department of Veterinary Microbiology,
College of Veterinary Sciences & Animal
Husbandry, Central Agricultural University,
Aizawl, Mizoram-796014.
- 2.2.5 Co-Investigator:
(Parent Institute)** Dr. Tridib Kumar Rajkhowa,
Associate Professor & Head
Department of Veterinary Pathology,
College of Veterinary Sciences & Animal
Husbandry, Central Agricultural University,
Aizawl, Mizoram-796014.
- 2.2.6 Principal Investigator (II):
(Parent Institute)** **Dr. Manabendra Mandal,**
Associate Professor
Department of Molecular Biology and
Biotechnology
Tezpur University, Napaam, Tezpur-784028,
Assam
- 2.2.7 Principal Investigator (I):
(Collaborating Institute)** **Dr. Siddhartha Narayan Joardar,**
Assistant Professor
Department of Veterinary Microbiology,
West Bengal University of Animal & Fishery
Sciences, 37, K. B. Sarani, Kolkata-700037,
West Bengal.
- 2.2.8 Co-Investigator:
(Collaborating Institute)** Dr. Indranil Samanta,
Assistant Professor
Department of Veterinary Microbiology,
West Bengal University of Animal & Fishery
Sciences, 37, K. B. Sarani, Kolkata-700037,
West Bengal.
- 2.2.9 Co-Investigator:
(Collaborating Institute)** Dr. Samir Dey,
Assistant Professor
Department of Veterinary Microbiology,
West Bengal University of Animal & Fishery
Sciences, 37, K. B. Sarani, Kolkata-700037,
West Bengal.

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**2.2.10 Co-Investigator:
(Collaborating Institute)**

Dr. Tapas Kumar Sar,
Assistant Professor (SS)
Department of Veterinary Pharmacology &
Toxicology,
West Bengal University of Animal & Fishery
Sciences, 37, K. B. Sarani, Kolkata-700037,
West Bengal.

**2.2.11 Principal Investigator (II): Dr. Asifa Qureshi,
(Collaborating Institute)**

Scientist
Environmental Genomics Division
National Environmental Engineering Research
Institute
Nehru Marg, Nagpur - 440020.

**2.2.12 Co-Investigator:
(Collaborating Institute)**

Dr. Hemant J Purohit,
Scientist and Head
Environmental Genomics Division
National Environmental Engineering Research
Institute
Nehru Marg, Nagpur - 440020.

2.3 Objectives:

1. To study the prevalence of biofilm producing bacteria (*Staphylococcus*, *Escherichia coli*, *Salmonella* and *Pseudomonas*) in pigs, cattle and poultry in NER and in cattle, poultry and ducks in West Bengal (CAU and WBUAFS).
2. To detect the linkage between presence of biofilm-associated genes and *in vitro* biofilm production capacity of the isolates (CAU and WBUAFS).
3. To detect the correlation between biofilm-associated genes, virulence genes, antimicrobial resistance genes of the isolates (CAU and WBUAFS).
4. To detect antigenic characteristics and to identify immune dominant proteins of biofilm producing bacterial isolates (WBUAFS).
5. To screen the traditionally used medicinal plants from North East India for microbial biofilm inhibition and quorum sensing inhibition (model organism: *Pseudomonas aeruginosa*) (Tezpur University).
6. To purify and characterize bioactive molecules from active plant sources (Tezpur University).
7. To study the mechanism of action of bioactive molecule on quorum sensing inhibition and/or anti-biofilm property (NEERI, Tezpur University).
8. To study the gene expression analysis of targeted biofilm forming genes (*pel*, *alg*, *bdIIA*) and transcriptional profile in model biofilm bacterial culture in presence of bioactive molecules (NEERI).

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 College of Veterinary Sciences & Animal Husbandry, CAU, Mizoram

Sl. No.	Description of equipment	Grant Recommended (₹ in lakhs)
1.	Deep freezer, -30°C/ -20°C with stabilizer	1.60
2.	Orbital shaker	1.50
3.	Horizontal electrophoresis apparatus with power supply	1.50
4.	CO2 incubator with accessories	6.00
5.	BOD incubator with accessories	2.50
6.	Vertical Laminar Air Flow with accessories	3.50
7.	Online UPS, 3.0 KVA	0.80
Total		17.40

2.5.2 Tezpur University, Tezpur, Assam

Sl. No.	Description of equipment	Grant Recommended (₹ in lakhs)
1.	HPLC	19.93
Total		19.93

2.5.3 West Bengal University of Animal & Fishery Sciences, Kolkata

Sl. No.	Description of equipment	Grant Recommended (₹ in lakhs)
1.	Gel documentation system with accessories	6.00
2.	Online-UPS	0.80
3.	Renovation of laboratory (including AC facility)	4.00
Total		10.80

2.5.4 National Environmental Engineering Research Institute, Nagpur

Sl. No.	Description of equipment	Grant Recommended (₹ in lakhs)
1.	Lyophilizer/Freeze dryer	10.00
Total		10.00

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

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- 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.
 - For Project Assistant salary is as per the revised DST OM C.30011/1/2007-IFD, dated 21st July 2008

2.6.1 College of Veterinary Sciences & Animal Husbandry, CAU, Mizoram

S No	Position (No)	Consolidated Emolument	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

2.6.2 Tezpur University, Tezpur, Assam

S No	Position (No)	Consolidated Emolument	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
2.	Research Associate -I (1)	@ 36000/- + 10 % HRA	4.75	4.75	4.75	14.25
Total			8.05	8.05	8.44	24.54

2.6.3 West Bengal University of Animal & Fishery Sciences, Kolkata

S No	Position (No)	Consolidated Emolument	1 st Year	2 nd Year	3 rd year	Total
1.	JRF/SRF (1)	JRF @ ₹ 25,000/- + 30 % HRA for the 1st & 2nd yr SRF @ ₹ 28,000/- + 30 % HRA for 3rd yr	3.90	3.90	4.36	12.16
Total			3.90	3.90	4.36	12.16

2.6.4. National Environmental Engineering Research Institute, Nagpur (₹ in lakhs)

S No	Position (No)	Consolidated Emolument	1 st Year	2 nd Year	3 rd year	Total
1.	JRF/SRF (1)	JRF @ ₹ 25,000/- + 20 % HRA for the 1st & 2nd yr SRF @ ₹ 28,000/- + 20 % HRA for 3rd yr	3.60	3.60	4.03	11.23
Total			3.60	3.60	4.03	11.23

2.7 Budget Estimate:

The total cost of the project is ₹ 150.00 Lakhs (Rupees One Crore Fifty Lakhs Only) as per budget summary given below:

2.7.1 College of Veterinary Sciences & Animal Husbandry, CAU, Mizoram (₹ in lakhs)

Heads	1 st Year	2 nd Year	3 rd Year	Total
I. Non-Recurring (Equipments and accessories)	17.40	0.00	0.00	17.40
Sub Total- I	17.40	0.00	0.00	17.40
II. Recurring				
1. Manpower	3.30	3.30	3.69	10.29
2. Consumables	4.00	3.00	1.00	8.00
3. Travel	0.50	0.50	0.50	1.50
4. Contingency	0.50	0.50	0.50	1.50
5. Overhead charges	0.25	0.25	0.25	0.75
Sub Total- II (1-5)	8.55	7.55	5.94	22.04
GRAND TOTAL (I+II)	25.95	7.55	5.94	39.44

2.7.2 Tezpur University, Tezpur, Assam

Heads	1 st Year	2 nd Year	3 rd Year	Total
I. Non-Recurring (Equipments and accessories)	19.93	0.00	0.00	19.93
Sub Total- I	19.93	0.00	0.00	19.93
II. Recurring				
1. Manpower	8.05	8.05	8.44	24.54
2. Consumables	2.00	2.00	1.00	5.00
3. Travel	0.50	0.50	0.25	1.25
4. Contingency	0.50	0.50	0.50	1.50
5. Overhead charges	0.30	0.25	0.20	0.75
Sub Total- II (1-5)	11.35	11.30	10.39	33.04
GRAND TOTAL (I+II)	31.28	11.30	10.39	52.97

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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. ⁵²⁰⁻⁵²³..... in the Register of Grants.

2.10.2 The accounts of grantee institution shall be open to inspection by sanctioning auditory / 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

To,

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

Copy to:

1. The Principal Director of Audit (Scientific Department), AGCR Building, New Delhi - 110 002.
2. Cash Section, DBT (For information only).
3. Sanction Folder.
4. IFD, DBT.
5. The Comptroller, Central Agricultural University, Iroisemba, Imphal-795004, Manipur.

Adm. No.: MAP/2015/17

BT/PR16149/NER/95/85/2015
Government of India
Ministry of Science & Technology
Department of Biotechnology
(NER-BPMC)

Block-2, 7th Floor,
CGO Complex, Lodhi Road
New Delhi-110003
Dated 22/01/2020

EXTENSION ORDER

In Continuation to the department's sanction order of even number Dated 19/01/2017, Sanction of the President is hereby accorded to the extension of the project entitled "Studies on antimicrobial and anti-biofilm activities of medicinal plant extracts obtained from North Eastern India against pathogenic bacteria isolated from pigs, cattle and poultry of NER India; and cattle, poultry and ducks of West Bengal" by Prof. Tapan Kumar Dutta, College of Veterinary Sciences & Animal Husbandry, CAU, Mizoram, Dr. Manabendra Mandal, Tezpur University, Tezpur, Assam, Dr. Siddhartha Narayan Joardar, West Bengal University of Animal & Fishery Sciences, Kolkata and Dr. Asifa Qureshi, National Environmental Engineering Research Institute, Nagpur for the period of six months within already sanctioned budget i.e upto 18th July, 2020. At the end of this period, please submit the following documents;

- i. Utilization Certificate (UC) for all three years (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 a balance in the project, kindly send a DD in favour of DDO, DBT, New Delhi at the earliest for final settlement of accounts.

2. The other terms and conditions of the project are as given in this Department Order No BT/PR16149/NER/95/85/2015 dated 19.01.2017.

Vaishali
(Dr. Vaishali Panjabi)
Scientist 'E'