

Administrative
(Application No: BMB/2015/03)

File No. BT/PR15847/NER/95/21/2015
GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY
(NER BPMC)

Block-2, 7th Floor,
CGO Complex, Lodhi Road
New Delhi-110003
Dated: 13 / 2 / 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 "Biophysical Characterization of adenylosuccinatelyase - a potential drug target from *Leishmania donovani* - a computational and molecular approach" by Dr. Anupam Nath Jha, Tezpur University, Napaam, Assam and Dr. Anju Pappachan, Indian Institute Of Advanced Research, Gandhinagar at a total cost of ₹ 69.65 Lakhs (Rupees Sixty Nine Lakhs and Sixty Five Thousand Only) for a period of three years, on the terms and conditions detailed as under:

2.0 The Project:

2.1 Project Title: Biophysical Characterization of adenylosuccinatelyase - a potential drug target from *Leishmania donovani* - a computational and molecular approach

2.2 Project Investigators

2.2.1 Principal Investigator:
(Parent Institute)

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

2.2.2 Principal Investigator:
(Collaborating Institute)

Dr. Anju Pappachan
Assistant Professor
Department of Bioinformatics and Structural
Biology
Indian Institute Of Advanced Research,
Koba, Gandhinagar-382007, Gujrat

2.3 Objectives:

Tezpur University, Napaam, Assam

1. The sequence analysis from the available ADSL proteins and literature search
2. Identification of crucial residues involved in oligomerization and functional activity of LdADSL
3. Mutational studies to determine the role of these residues
4. Molecular dynamics simulations of the native protein and mutants
5. Virtual screening of possible inhibitors

6. Prediction of possible drug ligands by different computational techniques (Docking, QSAR, ADMET)

Indian Institute Of Advanced Research, Gandhinagar

1. Cloning of LdADSL gene and recombinant protein expression
2. Generation of mutants (Mutations will be planned based on in-silico analysis)
3. Biophysical characterization of the proteins and mutants using techniques like CD spectroscopy, Fluorescence spectroscopy, Gel permeation chromatography, etc
4. Activity studies of native and mutant proteins using enzyme kinetic assays
5. Testing selected inhibitor compounds on the activity of the protein using enzyme assays

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, Napaam Assam

(₹ in lakhs)

Sl. No.	Description of equipment	Grant Recommended
1.	GPU based parallel computing system	19.50
Total		19.50

2.5.2 Indian Institute Of Advanced Research, Gandhinagar

(₹ in lakhs)

Sl. No.	Description of equipment	Grant Recommended
1.	Fluorescence spectrophotometer	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 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 Tezpur University, Napaam, Assam

(₹ 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/- + 10 % HRA for the 1 st & 2 nd yr SRF @ ₹ 28,000/- + 10 % HRA for 3 rd yr	3.30	3.30	3.70	10.30
Total			3.30	3.30	3.70	10.30

2.6.2 Indian Institute Of Advanced Research, Gandhinagar

(₹ 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/- + 10 % HRA for the 1 st & 2 nd yr SRF @ ₹ 28,000/- + 10 % % HRA for 3 rd yr	3.30	3.30	3.70	10.30
Total			3.30	3.30	3.70	10.30

2.7 Budget Estimate:

The total cost of the project is ₹ 69.65 Lakhs (Rupees Sixty Nine Lakhs and Sixty Five Thousand Only) as per budget summary given below:

2.7.1 Tezpur University, Napaam, Assam

(₹ in lakhs)

Heads	1 st Year	2 nd Year	3 rd Year	Total
I. Non-Recurring (Equipments and accessories)	19.50	0.00	0.00	19.50
Sub Total- I	19.50	0.00	0.00	19.50
II. Recurring				
1. Manpower	3.30	3.30	3.70	10.30
2. Consumables	1.50	1.50	2.00	5.00
3. Travel	0.50	0.50	0.50	1.50
4. Contingency	0.50	0.50	0.50	1.50
5. Overhead charges	2.00	1.00	1.00	4.00
Sub Total- II (1-5)	7.80	6.80	7.70	22.30
GRAND TOTAL (I+II)	27.30	6.80	7.70	41.80

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2.7.2 Indian Institute Of Advanced Research, Gandhinagar

(₹ in lakhs)

Heads	1 st Year	2 nd Year	3 rd Year	Total
I. Non-Recurring (Equipments 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	3.70	10.30
2. Consumables	2.00	2.00	2.00	6.00
3. Travel	0.25	0.25	0.25	0.75
4. Contingency	0.00	0.10	0.10	0.20
5. Overhead charges	0.20	0.20	0.20	0.60
Sub Total- II (1-5)	5.75	5.85	6.25	17.85
GRAND TOTAL (I+II)	15.75	5.85	6.25	27.85

(i) Grand total for 3 years (₹ 41.80 + ₹ 27.85) = ₹ 69.65 lakhs

(ii) Total for 1st year release (₹ 27.30 + ₹ 15.75) = ₹ 43.05 lakhs

2.8 Other Terms & Conditions:

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

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 at **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:

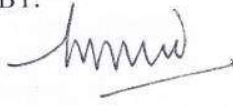
2.9.1 Both NER & Rest of India (RoI), Institutions scientists should work together for the objectives stated in the sanction of the project and any deviation from this would attract closure of the project at any point of time.

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.

Ans

- 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.....** ⁶¹⁴⁻⁶¹⁵ 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 Registrar, Tezpur University, Napaam-784028, Assam
6. The Vice-Chancellor, Tezpur University, Napaam-784028, Assam
7. The Director, Indian Institute Of Advanced Research, Gandhinagar- 382007, Gujrat.
8. Dr. Anupam Nath Jha, Assistant Professor, Department of Molecular Biology and Biotechnology, Tezpur University, Napaam-784028, Assam.
9. Dr. Anju Pappachan, Assistant Professor, Department of Bioinformatics and Structural Biology, Indian Institute Of Advanced Research, Koba, Gandhinagar-382007, Gujrat.
10. Concern file.
11. The Managing Director, Biotech Consortium India Limited, (NER-BPMC), 5th Floor, Anuvrat Bhawan, 210, Deen Dayal Upadhyay Marg, New Delhi- 110002.


(Dr. T Madhan Mohan)
Adviser, DBT