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Administrative
(Application No: MED/2017/32)

File No. BT/PR24726/NER/95/833/2017
GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY
(NER BPMC)

Block-2, 7th Floor,
CGO Complex, Lodhi Road
New Delhi-110003
Dated: 23 / 03 /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 under 'DBT's Twinning programme for the NE' titled "Development of synthetic derivatives of natural compound, Noscapine as tubulin binding chemotherapeutic agent and evaluation of its synergistic effect with Taxotere for management of human breast cancer" by Dr. Anand Ramteke, Tezpur University, Napaam, Assam and Sambalpur University, Jyotivihar, Odisha at a total cost of ₹ 70.50 Lakhs (Rupees Seventy Lakhs and Fifty Thousand Only) for a period of three years, on the terms and conditions detailed as under:

2.0 The Project:

2.1 Project Title: Development of synthetic derivatives of natural compound, Noscapine as tubulin binding chemotherapeutic agent and evaluation of its synergistic effect with Taxotere for management of human breast cancer.

2.2 Project Investigators

- 2.2.1 Principal Investigator:** Dr. Anand Ramteke
(Parent Institute) Professor,
Dept. of Molecular Biology & Biotechnology,
Tezpur University,
Napaam - 784028, Assam
- 2.2.2 Principal Investigator:** Dr Pradeep Naik
(Collaboration Institute) Professor and Head,
Department Biotechnology and Bioinformatics,
Sambalpur University, Jyotivihar
Burla, Sambalpur- 768019, Odisha.
- 2.2.3 Co-Investigators:** Dr. Suvendra Ray
(Parent Institute) Professor and Head,
Dept. of Molecular Biology & Biotechnology,
Tezpur University,
Napaam - 784028, Assam

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**2.2.4 Co-Investigators I:
(Collaboration Institute)**

Dr. Srinivas Kantevari
Principal Scientist & Associate Professor,
Department of Organic Chemistry Division-II,
CSIR-Indian Institute of Chemical Technology
(CSIR-IICT), 225, First Floor, Main Building,
Hyderabad- 500007.

**2.2.5 Co-Investigators II:
(Collaboration Institute)**

Dr. Sabita Mohapatra
Professor and Head,
Department of Pharmacology,
Principal Scientist & Associate Professor,
Veer Surendra Sai University of Technology
(VSSUT), Sambalpur-768018, Odisha.

2.3 Objectives:

Tezpur University:

1. To evaluate and establish the in vitro anticancer efficacy of novel microtubule-interfering agent (design above) using breast cancer cells. Towards this end we will determine the effect of novel Noscapinoid to (i) inhibit cellular proliferation, (ii) perturb spindle architecture, (iii) binding affinity with tubulin, (iv) affect cell cycle kinetics, and (v) induce apoptosis in breast cancer cells.
2. To determine the combination dose regimen of promising Noscapinoid and Docetaxel (a clinically used taxane for metastatic breast cancer therapy) and evaluate its therapeutic outcome using in vitromodels.

Sambalpur University

3. To rationally design novel and potent derivative of Noscapine (called Noscapinoid) with high binding affinity onto α - and β -tubulin complex followed by chemical synthesis and structural characterization.
4. To evaluate the in vivo therapeutic efficacy of promising Noscapinoid as an inhibitor of localized and metastatic breast cancer using breast cancer model established in animal.
5. To evaluate the toxicity if any of promising Noscapinoid based on histopathology and hematology studies using animal model
6. To determine the combination dose regimen of promising noscapinoid and Docetaxel (a clinically used taxane for metastatic breast cancer therapy) and evaluate its therapeutic outcome using in vivo model as well as toxicity analysis.

2.4 Time Schedule:

The duration of the project is Three Years from the date of issue of sanction order.

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2.5 Equipment Details:

2.5.1 Tezpur University, Assam

Sl. No.	Description of equipment	Grant Recommended (Rupees in lakhs)
1.	Inverted fluorescent microscope	9.00
2.	Deep Freezer (-80)	3.00
Total		12.00

2.5.2 Sambalpur University, Sambalpur, Odisha

Sl. No.	Description of equipment	Grant Recommended (Rupees in lakhs)
1.	Cryostat microtome	7.00
Total		7.00

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, Assam

S No.	Position (No)	Consolidated Emolument	₹ in lakhs)			Total
			1 st Year	2 nd Year	3 rd year	
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

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2.6.2 Sambalpur University, Sambalpur, Odisha

(₹ in lakhs)

S No.	Position (No)	Consolidated Emolument	1st Year	2nd 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 ₹ 70.50 Lakhs (Rupees Seventy Lakhs and Fifty Thousand Only) as per budget summary given below:

2.7.1 Tezpur University, Assam

(₹ in lakhs)

Heads	1 st Year	2 nd Year	3 rd Year	Total
I. Non-Recurring (Equipment's and accessories)	12.00	0.00	0.00	12.00
Sub Total- I	12.00	0.00	0.00	12.00
II. Recurring				
1. Manpower	3.30	3.30	3.70	10.30
2. Consumables	5.00	4.00	4.00	13.00
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)	11.30	9.30	9.70	30.30
GRAND TOTAL (I+II)	23.30	9.30	9.70	42.30

2.7.2 Sambalpur University, Sambalpur, Odisha

(₹ in lakhs)

Heads	1 st Year	2 nd Year	3 rd Year	Total
I. Non-Recurring (Equipment's and accessories)	7.00	0.00	0.00	7.00
Sub Total- I	7.00	0.00	0.00	7.00
II. Recurring				
1. Manpower	3.30	3.30	3.70	10.30
2. Consumables	3.00	3.00	2.00	8.00
3. Travel	0.25	0.25	0.25	0.75
4. Contingency	0.50	0.30	0.30	1.10
5. Overhead charges	0.50	0.30	0.25	1.05
Sub Total- II (1-5)	7.55	7.15	6.50	21.20
GRAND TOTAL (I+II)	14.55	7.15	6.50	28.20

- (i) Grand total for 3 years (₹ 42.30 + ₹ 28.20) = ₹ 70.50 Lakhs
(ii) Total for 1st year release (₹ 23.30 + ₹ 14.55) = ₹ 37.85 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.
- 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/I.F.D/SAN/1765-1767/2017-2018 Dated 20.07.2017.
- 2.10.1 This sanction order has been noted at Serial No. ⁴¹⁹⁻⁴²⁰..... in the Register of Grants.