सत्यमेव जयते

Department of Biotechnology
Ministry of Science and Technology
Government of India

Request for Letters of Intent (LoIs) on '*Genome Editing-based Therapeutics for Targeted Therapy of Human Diseases*'

Background:

Recent advances in genome editing technologies have widened their range of applications in biomedical research and development. The current surge in the number and range of applications of genome editing technologies largely owes to the introduction of the CRISPR-Cas9 – a genome-editing tool that can be used to make precise and targeted changes in the DNA sequence with much ease. Being precise, relatively inexpensive, easy-to-use, and remarkably powerful, genome editing technologies developed in the recent years have the immense potential to be used for development of healthcare solutions.

Genome Editing Technologies owing to the ability of correcting gene sequence as well as to knockout different genes can be used for development of therapeutic solutions for various diseases including cancer, cardiovascular disease, metabolic disorders, and neurodegenerative diseases. To further research and development (R&D) in this direction, Department of Biotechnology (DBT), Govt. of India invites Letters of Intent (LoIs) on '*Genome editing-based therapeutics for targeted therapy of human diseases*.'

Scope of the call:

Letters of Intent (LoIs) for R&D projects, with the overall aim of generating proof-of-concept for development of cost-effective genome editing-based therapeutics for diseases having high burden in the country, focusing on various approaches including (*but not limited to*):

- CRISPR-Cas based genome editing for disease modeling to understand the etiology of various diseases and to delineate molecular mechanisms that can be exploited for development of cost-effective therapeutics
- Peptide Nucleic Acids-based genome editing approaches for treatment of various diseases

having genetic basis

- Genome editing-based therapeutics for various forms of cancer, cardiovascular disease, metabolic disorders, and neurodegenerative diseases
- Development of non-integrative lentiviral vectors for efficient delivery of genome editing constructs for therapeutic purpose
- Development of Adeno-associated virus (AAV)-based vectors for efficient delivery of genome editing constructs for therapeutic purpose
- Development of non-viral delivery vehicles (liposomes, nanoparticles etc.) for efficient delivery of genome editing constructs for therapeutic purpose

Format for Letter of Intent (LoI):

1. Project title
2. Details of institutions & investigators involved in the project
3. Aims and Objectives of the Proposal - *clearly defining the unmet need being addressed*
4. Specific biological/ technological questions in the context of the unmet need & its rationale
5. Current state of the proposed technology and research in the Indian and International context
7. Novelty of the proposal
8. Expected outcomes & their potential applications in the Indian context
9. Scope of development of resources to be made available for the larger biological science community (if applicable)
10. Brief CV of the investigators (with details of 5-6 most relevant publications, patents etc.)
11. Tentative institution-wise budget (please also mention budget break-up for Recurring & Non-Recurring heads)

The LoI should be signed by all the PI(s)/Co-PI(s) and forwarded by the Executive Head of the proposed host institution(s).

Eligibility:

Scientist(s)/Clinician(s)/Researcher(s)/Academician(s) with sound and relevant scientific/clinical and technical backgrounds and relevant publications working in regular capacity in recognized Research Institutions/Medical Colleges/Academic Institutions desirous of undertaking research activities as enumerated above can submit LoIs against this Call. For non-government institutions, DSIR-recognition as a Scientific and Industrial

Research Organization (SIRO) is a must. The host institution should undertake the overall responsibility of implementing the project including following of relevant statutory requirements/norms/guidelines/procedures.

Mode of Submission:

Interested researchers should submit letter of intent in the above format duly forwarded by the executive head of the institution through email in PDF (one consolidated file with Annexure) and MS-Word file formats to Dr. Amit K. Tripathi, Scientist 'C', DBT, New Delhi (Email ID: amitkr.tripathi@dbt.nic.in) with a copy to Dr. Sandhya R. Shenoy, Scientist 'F', DBT, New Delhi (Email ID: sandhya.shenoy@dbt.nic.in)

One hard copy of the LoI in the above-mentioned format should also be sent via Speed Post to **Dr. Amit K. Tripathi, Scientist 'C', Department of Biotechnology, R. No. 525B, 5th Floor, Block-3, CGO Complex, Lodi Road, New Delhi 110003.**

PIs of the shortlisted LoIs will be invited to submit full proposal through the DBT eProMIS (Electronic Project Management Information System) in due course.

Contact for further information:

Dr. Sandhya R. Shenoy, Scientist 'F', DBT, New Delhi (Email ID: sandhya.shenoy@dbt.nic.in; Tel.: +91-11-24367192) or **Dr. Amit K. Tripathi, Scientist 'C', DBT, New Delhi** (Email ID: amitkr.tripathi@dbt.nic.in; Tel.: +91-11-24363748)

Last Date for Submission: 31st December 2022

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