



Department of Biotechnology
Ministry of Science and Technology
Government of India

Request for Letters of Intent (LoIs) for ‘Setting up of Centre of Excellence in Nano-Vaccines & Nano-Adjuvants’.

Background:

With advancement in Nanosciences, Nanotechnology based solutions have been explored extensively for their role in vaccine development. Nanovaccines have the potential to induce both cell-mediated and antibody-mediated immunity and can render long-lasting immunogenic memory.

With development of vaccines towards compositions of nano scale, there is need for formulations that improve the effectiveness of antigens and adjuvants for Vaccines. Despite encouraging results in recent development of nanoscience, there are still challenges to be tackled and R & D is required in area of vaccine development for effective co-loading of antigen and adjuvant; and also for fundamental understanding of *in vivo* behaviour of nanoparticles regarding targeted delivery, antigen presentation, stimulation of body's innate immunity, strong T cell response combined with safety to combat infectious diseases and cancers.

Purpose of the Call:

The goal of this call is to ‘*Set up CoE in Nano-Vaccines & Nano-Adjuvants*’ to support multi-institutional/multi-investigator projects for the development of technologies in India for 'Nano-Vaccines & Nano-Adjuvants' for safe and effective Nano vaccines for cancers and other diseases. Accordingly, Letters of Intent (LoIs) are invited for ‘Setting up of CoE in Nano-Vaccines & Nano-Adjuvants’ for a period of five years for consideration and possible funding. Applications are expected to have defined Milestones and Timelines detailing how the project will move forward with identified deliverables and expected outcomes.

Scope of the call:

The focus of the LoI may be on the following, but not limited to:

1. Effective co-loading of antigen and adjuvant in Nanovaccines;
2. Nanoparticle-Based Vaccines Against Respiratory Viruses and other challenging pathogens;
3. Clinical trials and implementation of Nanovaccine for effective cancer & other disease treatment;
4. *Strategies to improve efficacy of Nanovaccines*: with improved targeted delivery, antigen presentation, stimulation of body's innate immunity, strong T cell response combined with safety to combat infectious diseases and cancers;
5. Establishment of safe, affordable nontherapeutic agent for vaccine development;
6. Regulatory testing methods;
7. Development of broad spectrum vaccines; Development of safe and effective nanovaccines for emerging communicable and non-communicable diseases.

Eligibility: Scientist(s)/Clinician(s)/Researcher(s)/Academician(s) with sound 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.

Who Can Apply?

LoIs in response to this grant call will require multidisciplinary, multi-institutional and interministerial efforts and collaborations to succeed. Therefore, a team of clinical researchers/basic scientists/pharmacologists/health care experts, with necessary skills and expertise required to carry out the proposed research are invited to submit the LoI with a maximum limit of 1000 words through their Institution / organization / university.

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. Key support required (lab modulation/ equipment/ personnel/ facility)
12. 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).

How to Apply:

The LoIs, duly forwarded by the executive head of the institution as one consolidated file in the pdf format through email and one hard copy as per the proforma given may be sent to the address:

Dr. Manoj Kumar, Scientist 'C', Department of Biotechnology, Room # 525B, 5th Floor, Block III, C. G. O. Complex, Lodi Road, New Delhi 110003 by 31st December 2022 (Email ID: manoj.kr09@gov.in) with a copy to Dr. Sandhya R. Shenoy, Scientist 'F', DBT, New Delhi (Email ID: sandhya.shenoy@dbt.nic.in)

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

The deadline for submission of LoI is 31st December 2022.

For any queries, contact Dr. Manoj Kumar, Scientist-C, (manoj.kr09@gov.in) / Dr. Sandhya R. Shenoy, Scientist 'F', DBT, New Delhi (sandhya.shenoy@dbt.nic.in).