

**Innovative Medicines Accelerator
Request for Proposals for Vaccine Prototyping using Tonsils-in-a-Dish**

Stanford University's Innovative Medicines Accelerator (IMA) aims to accelerate the prototyping of innovative medicines and vaccines, and to enable hypothesis-driven studies on human subjects. The purpose of this request for proposals (RFP) is to leverage a recent technological advance to prototype new vaccines for infectious and non-infectious diseases.

By culturing patient-derived tonsils in a petri-dish, Stanford researchers have developed a functional lymphoid organotypic systems that recapitulate key features of the human immune system's germinal center in vitro, including the production of antigen-specific antibodies, somatic hypermutation and affinity maturation, plasmablast differentiation and class-switch recombination (Wagar et al., *Nature Med.* 27, 125-135, 2021). Such organoids can now be used to engineer new vaccines or assess the efficacy of novel adjuvants. Through this RFP, the IMA seeks to support meritorious projects targeted at these translational goals. Successful projects will utilize patient derived tonsils-in-a-dish provided by the Stanford Institute for Immunity, Transplantation, and Infection as a model system.

Support Provided:

Successful applicants will receive up to \$150K, contingent upon progress toward stated goals. The award supports materials/supplies and can support salary/stipend for postdoc and graduate students. This award does not support faculty time.

Awardees will receive access to patient derived tonsils-in-a-dish and the expertise of the Stanford Institute for Immunity, Transplantation and Infection. Awardees will conduct experiments under an existing IRB and APB (biosafety protocol) within a laboratory associated with the Institute. To do so, awardees will need to complete bloodborne pathogen training, aerosol transmissible disease training, BSL2 training and any other biosafety training measures that are relevant to their projects.

Deadline:

All application materials must be received by 11:59 PM on October 22, 2021. Applications must be submitted through SlideRoom.

Eligibility:

All Stanford faculty with PI eligibility are welcome to apply.

Application Instructions:

Submit one PDF file containing the following materials in the order indicated below. All documents should be single-spaced, Arial 11-point font with 0.5-inch margins.

1. Title page (1 page)
 - a. "Request for Proposals for Vaccine Prototyping Using Tonsils-in-a-dish – Fall 2021"
 - b. Project title
 - c. Investigator(s): Name, department, address, phone number, email address
 - d. Application summary (150 words) – Please provide a high-level description of the project that highlights the target disease, the vaccine/adjuvant engineering strategy, and why the tonsil organoid platform is essential for success of the proposed project. Describe how the proposed project will impact clinical practice and patient outcomes, if successful. Emphasize what is novel about the approach.

2. Proposal (3 pages maximum)
 - a. Therapeutic or Prophylactic hypothesis – Describe the therapeutic or prophylactic hypothesis and its supporting evidence. Provide preliminary data, if available.
 - b. Technical summary – Briefly describe the proposed research with a focus on the vaccine/adjuvant prototype to be engineered and the requisite assays involving the tonsils-in-a-dish platform.
 - c. Research goals should be achievable within 6-24 months.
 - d. Describe research goals as deliverables and indicate 1-2 key milestones required to reach the goals.
 - e. **Required:** Indicate whether the project will use pediatric and/or adult samples, the required number of organoids, and number of patients from which the organoids are derived.
 - f. **Required:** Proposals should detail who from the applicant's lab will conduct the experiments and indicate that any required training will be completed. Trainings: Bloodborne Pathogens (EHS-1600, EHS 1601); DOT: Shipping biological goods or dry ice (EHS 2700, EHS-2701); Aerosol Transmissible Diseases (EHS-PROG-1090); Bloodborne pathogens part II: exposure control plan; Aerosol Transmissible Disease Biosafety Plan; and Agent Education Acknowledgement; and BSL2 training.
3. References
4. NIH format budget with justification (PI salary support is not provided).
5. NIH-format biosketch for each investigator

Applications should be submitted directly through the ChEM-H SlideRoom portal found here: <https://chemh.slideroom.com/#/permalink/program/63657> . You do not need to submit your applications to your Research Process Manager (RPM) in RMG or through your Office of Sponsored Research (OSR) Contract and Grant officer (CGO) for their approval at this time.

Selection Process & Timeline:

Proposals will be reviewed by a faculty panel and evaluated according to the following criteria:

1. Significance of the medical need
2. Novelty of the vaccine or adjuvant engineering approach
3. Relevance of the tonsil organoid platform to the proposed research
4. Goal oriented research plans that work towards achieving milestones and key deliverables
5. Feasibility of the achieving the deliverables within the proposed timeframe

Applications are due by 11:59PM on October 22, 2021. Finalists will be selected in November, 2021 for immediate launch of research projects.

Contact:

For questions about the funding opportunity, please contact:

Beth Sefton, Ph.D.

Sr. Scientific Program Manager

Innovative Medicines Accelerator

esefton@stanford.edu

For questions about IMA, please contact:

Chaitan Khosla, Ph.D.

IMA Director

Professor, Departments of Chemistry and Chemical Engineering

khosla@stanford.edu