Sanofi TSH Priority Areas

The Vaccines business at Sanofi is interested in partnering opportunities in the field of active and passive human immunization, as well as technologies supporting product development, clinical and industrial performance, including:

- **Vaccines and monoclonal antibodies against infectious diseases**

    - Prophylactic vaccines candidates (respiratory viruses, multi-pathogen nosocomial, latent infections, bacterial targets, gastrointestinal pathogens)
    - Therapeutic vaccine candidates (multi-pathogen nosocomial, latent infections, bacterial targets)
    - Monoclonal antibodies against infectious disease targets

- **Enabling technologies (including mRNA) for prevention and treatment of infectious diseases**

    - mRNA vaccine technologies – mRNA design, delivery, stabilization, production and formulation
    - mRNA vaccine raw materials and production - pDNA, improved enzymes, lipids
    - Novel antigens and methods for antigen discovery, optimization and characterization
    - New ways to administer vaccines, including mucosal routes (oral, sublingual, intranasal)
    - Nanoparticles, carrier proteins, and methods of conjugations of proteins and polysaccharides
    - Novel vectors for delivering antigens
    - Adjuvants and immunomodulators

- **Antigen design**

    - Rational vs precision antigen design
    - Native vs de novo antigen design
    - AI, ML tools
    - Impact of glycosylation on antigen design
    - Novel formulations and vaccine strategies for oral, intranasal, sublingual or intradermal delivery
    - New ways to cross the epithelial barriers to deliver vaccines to the MALT (Mucosal Associated Lymphoid Tissues)
    - Build on "Smart RNA vaccines" with highly regulated & cell-specific expression

- **Characterization and assays of immune responses, disease markers and disease targets**

    - Animal models, including of human diseases
    - Biological markers and tools for evaluating the efficacy of prophylactic or therapeutic interventions
    - In vitro, ex vivo, and 3D models of human tissues, including the immune system
    - B-cell immunology, and immunosenescence
    - Imaging/bioimaging
    - Systems biology methodologies (omics) related to biomarkers, safety, and disease target identification
    - Bioinformatics techniques for modeling, data handling and analysis
    - AI, machine learning

- **Mucosal or Skin Immunization**

    - Novel formulations and vaccine strategies for oral, intranasal, sublingual or intradermal delivery
    - New ways to cross the epithelial barriers to deliver vaccines to the MALT (Mucosal Associated Lymphoid Tissues)