Center for Research on Influenza Pathogenesis and Transmission (CRIPT)

Based at the Icahn School of Medicine at Mount Sinai and supported by NIAID, CRIPT integrates basic and clinical research to study the evolution, disease progression, and transmission of influenza and other respiratory viruses with pandemic potential in humans and animals. CRIPT develops tools and expertise in animal surveillance, human clinical studies, diagnostics, vaccination strategies, basic and applied research, and pandemic response efforts.

Center Overview

Principal Investigator:

➤ Adolfo García-Sastre, Ph.D.
Icahn School of Medicine at Mount Sinai

55+ Investigators	**30+** Institutions

7+ Ongoing Clinical Studies	**21,900+** Sequences Generated	**355+** Publications

Publication Highlights:

Cross-species and mammal-to-mammal transmission of clade 2.3.4.4b highly pathogenic avian influenza A/H5N1 with PB2 adaptations. **PMID 40044729**

A live attenuated NS1-deficient vaccine candidate for cattle-origin influenza A (H5N1) clade 2.3.4.4.b viruses. **PMID 40652001**

Clinical Studies

➤ Human cohort studies investigate immunity after natural infection or vaccination, identifying signs of protection and risk factors for transmission

➤ Clinical research bridges bench science with real-world health outcomes, supporting diagnostics and public health interventions

➤ Rapid deployment of scientific resources enables response to pre-pandemic and pandemic events, including H5N1 and COVID-19

Animal Surveillance

➤ Surveillance efforts monitor influenza and other respiratory viruses in animals to detect and assess pandemic threats early

➤ Animal models are used to study dynamics of viral spread, disease progression, and viral transmission from animals to humans

➤ Global collaboration with research and public health partners strengthens preparedness and response capabilities for viruses with pandemic potential

Fundamental Research

➤ Integrated studies on influenza and other viruses with pandemic potential focus on evolution, disease progression, and transmission

➤ Projects emphasize advancing knowledge in virus-host interactions, disease severity, and immune recognition and responses

➤ Epidemiology and computational modeling inform surveillance and vaccine strategies

CEIRR Training Program

➤ Commitment to developing future leaders in infectious disease research through mentorship and hands-on experiences

➤ Hosted the 1st Annual CEIRR Training Workshop on Antigenic Cartography in July 2025

➤ Deepening theoretical understanding and applying new techniques to their own data in this training, 25 CEIRR members (graduate students to junior faculty) participated

Data for metrics collected through December 2025. Click here to view all CRIPT Publications.

CEIRR iDPCC | 2014-2025

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