KOREA-US

Frontiers in Health and Life Sciences

2025. 11. 6(Thu) - 7(Fri)

Four Seasons Hotel, Grandballroom(3F)

Curriculum Vitae

Name	**First Name**	NAM-HYUK	**Last Name**	CHO
Country	Republic of Korea			
Affiliation	Seoul National University College of Medicine			

Educational Background

- B.S., Genetic Engineering, Korea University (1990 – 1996)
- M.S., Molecular Biology, Korea University Graduate School of Biotechnology (1996 – 1998)
- Ph.D., Medical Microbiology, Seoul National University College of Medicine (1998 – 2001)

Professional Career

- Postdoctoral Researcher, Seoul National University College of Medicine (2001 – 2002)
- Postdoctoral Fellow, Harvard Medical School (2002 – 2004)
- Assistant Professor, Seoul National University College of Medicine (2004 – 2008)
- Associate Professor, Seoul National University College of Medicine (2008 – 2013)
- Professor, Seoul National University College of Medicine (2014 – Present)

Research Field

Dr. Nam-Hyuk Cho has a longstanding interest in host-pathogen interactions, particularly in emerging human pathogens. He is currently a professor in the Department of Microbiology and Immunology at Seoul National University College of Medicine, Seoul, South Korea. Dr. Cho began studying immune responses and immunopathogenesis during the infection of *Orientia tsutsugamushi*, the causative agent of scrub typhus, during his Ph.D. training at Seoul National University. He expanded his research areas to virology while undergoing postdoctoral training at Harvard Medical School. Dr. Cho has a broad background in cellular immunology, molecular biology, microbiology, and virology. He has collaborated with clinicians in several Korean hospitals to study the immunological pathogenesis of several endemic and new emerging infectious diseases, including scrub typhus, severe fever with thrombocytopenia syndrome (SFTS), and emerging coronavirus infections.

Dr. Cho's team investigates potential vaccine antigens through both animal model studies and clinical research on scrub typhus. Their research also delves into virus-host cell interactions, with a focus on emerging viral pathogens such as SFTSV, MERS-CoV, and SARS-CoV-2. By elucidating the fundamental mechanisms these pathogens employ, their work not only advances strategies for combating severe infections but also deepens our understanding of immune system evolution. Ultimately, Dr. Cho seeks to

engineer immune structures through a novel approach termed *immunoarchitectonics*, aiming to regulate immune responses against a range of human diseases, including infections and cancers, by modulating the functional architecture of the immune system.

Papers, Books, etc. presented or published by your name

Selected publications (2020 ~ present)

● Recombinant Dabie Bandavirus as an effective bivalent vaccine platform inducing protective immunity against intracellular pathogen and cancer. ***Mol. Ther. 2025 in press.***
● The therapeutic potential of mRNA-encoded SFTSV human monoclonal antibody encapsulated lipid nanoparticle in vivo. ***J Control Release. 2025 Apr 12:113735.***
● A humanized ACE2 mouse model recapitulating age- and sex-dependent immunopathogenesis of COVID-19. ***J Med Virol. 2024 Sep;96(9):e29915.***
● Rise in broadly cross-reactive adaptive immunity against human β-coronaviruses in MERS-recovered patients during the COVID-19 pandemic. ***Sci Adv. 2024 Mar;10(9):eadk6425.***
● mRNA vaccine encoding Gn provides protection against severe fever with thrombocytopenia syndrome virus in mice. ***NPJ Vaccines. 2023 Oct 31;8(1):167.***
● A natural variation in the RNA polymerase of severe fever with thrombocytopenia syndrome virus enhances viral replication and in vivo virulence. ***J Med Virol. 2023 Sep;95(9):e29099.***
● Fatal outcome of severe fever with thrombocytopenia syndrome (SFTS) and severe and critical COVID-19 is associated with the hyperproduction of IL-10 and IL-6 and the low production of TGF-β. ***J Med Virol. 2023 Jul;95(7):e28894.***
● An Alternative Splicing Variant of the Mixed-Lineage Leukemia 5 Protein Is a Cellular Adhesion Receptor for ScaA of Orientia tsutsugamushi. ***mBio. 2023 Feb 28;14(1):e0154322.***
● Inducing Ectopic T Cell Clusters Using Stromal Vascular Fraction Spheroid-Based Immunotherapy to Enhance Anti-Tumor Immunity. ***Adv Sci (Weinh). 2022 Sep 9(28):e2203842.***
● Longevity of seropositivity and neutralizing antibodies in recovered MERS patients: a five-year follow-up study. ***Clin Microbiol Infect. 2022 Feb;28(2):292-296.***
● Enhanced eosinophil-mediated inflammation associated with antibody and complement-dependent pneumonic insults in critical COVID-19. K ***Cell Rep. 2021 Sep 20:109798.***
● Sustained Responses of Neutralizing Antibodies Against Middle East Respiratory Syndrome Coronavirus (MERS-CoV) in Recovered Patients and Their Therapeutic Applicability. ***Clin Infect Dis. 2021 Aug 2;73(3):e550-e558.***
● Genotypic Heterogeneity of Orientia tsutsugamushi in Scrub Typhus Patients and Thrombocytopenia Syndrome Co-infection, Myanmar. ***Emerg Infect Dis. 2020 Aug;26(8):1878-1881.***
● Non-invasive in vivo imaging of caspase-1 activation enables rapid and spatiotemporal detection of acute and chronic inflammatory disorders***. Biomaterials. 2020 Jan; 226:119543.***