2nd International Conference on
VACCINES & VACCINATION
&
3rd International Meeting on
VETERINARY & ANIMAL HEALTH

June 17-18, 2019
Miami, USA

Peter L Nara

Biological Mimetics, Inc., USA

Antibody neutralization of retargeted measles viruses

The measles virus (MV) vaccine lineage is a promising oncolytic but prior exposure to the measles vaccine or wild-type MV strains limits treatment utility due to the presence of anti-measles antibodies. MV entry can be redirected by displaying a polypeptide ligand on the Hemagglutinin (H) C-terminus. We hypothesized that retargeted MV would escape neutralization by monoclonal antibodies (mAbs) recognizing the H receptor-binding surface and be less susceptible to neutralization by human antisera. Using chimeric H proteins, with and without mutations that ablate MV receptor binding, we show that retargeted MVs escape mAbs that target the H receptor-binding surface by virtue of mutations that ablate infection via SLAM and CD46. However, C-terminally displayed domains do not mediate virus entry in the presence of human antibodies that bind to the underlying H domain. In conclusion, utility of retargeted oncolytic measles viruses does not extend to evasion of human serum neutralization.

Biography

Peter L Nara, currently is the Chief Executive Officer, President, Chairman & co-founder of Biological Mimetics, Inc. and held the Endowed Eugene Lloyd Entrepreneurial Chair and Professor in Vaccinology, founding Center Director for the Center for Advanced Host Defense, Immunobiotics, and Translational Comparative Medicine in the Department of Biomedical Sciences, in the College of Veterinary Medicine at Iowa State University, is an Adjunct Professor of Microbiology/Immunology, Carver College of Medicine, University of Iowa. He holds a MSc in Immuno-pharmacology, a combined Doctor of Veterinary Medicine and PhD (retro-virology/oncogenesis) from The Ohio State University, 4 year combined residency in Comparative Pathology and NIH senior post-doctoral Fellowship at both the Armed Forces Institute of Pathology and the NIH respectively.

jucelainehaas@utfpr.edu.br