EuroSciCon

EuroSciCon Conference on

Microbiology & Virology

June 21-22, 2018
Paris, France

Arch Clin Microbiol 2018 Voulume: 9
DOI: 10.4172/1989-8436-C3-012

DEVELOPMENT OF A NOVEL THERAPEUTIC AGAINST CORONAVIRUSES

Yvonne Pho[1], Anders Leung[2], Mable Hagan[2] and Darwyn Kobasa[1, 2]

[1]University of Manitoba, Canada
[2]Public Health Agency of Canada, Canada

Based on the SARS-coronavirus (SARS-CoV) outbreak in 2003 and the ongoing outbreak of MERS-CoV, therapeutic development against coronaviruses is a vital area of research. With the capacity of these coronaviruses to emerge from their natural host reservoir as zoonotic infections and capacity of rapid expansion, it is almost inevitable that another coronavirus with the capacity to cause a deadly outbreak will cross the species barrier. Previously approved drugs that are non-specific to CoVs have had little to no effect on clinical disease or patient outcomes. This presentation aims to describe the development of a novel therapeutic able to specifically target and neutralize SARS-CoV and MERS-CoV with focus on the viral spike protein which is essential for viral entry. The novel treatment was derived from the fusion of spike protein specific peptide and Fc domain of an IgG antibody. Initially, SARS-CoV was targeted as a proof-of-concept model using Fc-fusion construct generated from the host cell receptor ACE2. Our Fc-ACE2 construct was shown to efficiently bind to SARS spike protein and neutralize virus *in vitro*. These results suggest that the Fc-Receptor fusion protein may be useful as a therapeutic to treat or prevent infections by a novel emerging virus.

umpho@myumanitoba.ca