UNIVERSITY OF ALBERTA
TECHNOLOGY TRANSFER SERVICES

WNT/BETA-CATENIN INHIBITORS AS ANTIVIRALS

ID# 2020052

HIGHLIGHTS

- Wnt/Beta-catenin inhibitors block replication of SARS-CoV2, other coronaviruses and pathogenic RNA viruses
- Potential to repurpose existing compounds

OPPORTUNITY

Researchers from the University of Alberta Department of Cell Biology have identified a novel class of small molecules with antiviral activity. Using multiple human primary cell types and cell lines, we have demonstrated *in vitro* that Wnt/Beta-catenin inhibitors block replication of SARS-CoV2 when administered pre- and post- infection. Some Wnt/Beta-catenin inhibitors were shown to significantly reduce SARS-CoV2 viral titres in normal bronchial epithelial lung cells. Certain Wnt/beta-catenin inhibitors demonstrated efficacy against HCOV-229E, HCOV-NL63, Zika virus and Mayoro virus.

Wnt/Beta-catenin inhibitors may achieve this effect through inducing peroxisome proliferation and enhancing interferon production; interferon production is not induced by these compounds in the absence of viral infection.

STATUS

- Patent pending: WO2022020967
- Xu, Z., Elaish, M., Wong, C.P. et al. The Wnt/β-catenin pathway is important for replication of SARS-CoV-2 and other pathogenic RNA viruses. npj Viruses 2, 6 (2024).

INVENTOR

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