Interprotein

Assay Result of Repurposing Drug Candidates for COVID-19

June 20th, 2020 – Interprotein Corporation is pleased to announce that assay results in the repurposing of drug candidates for COVID-19 have been clarified. We examined a drug repositioning approach to select compounds that are predicted to bind to 3-chymotrypsin-like protease (an essential enzyme for SARS-CoV-2 replication; also known as 3CLpro, Main protease and Mpro) from approved drugs aiming at contribution to the termination of the "COVID-19 Pandemic".

The above-mentioned small molecule compounds were predicted to show potent activity by Interprotein's AI-guided INTENDD®, a unique artificial intelligence (AI)-based activity prediction system and eighteen (18) compounds have been identified from 1741 approved compounds thus far. These compounds include drugs whose effectiveness on SARS-CoV-2 has never been suggested in scientific reports and that have relatively high versatility unlike anti-viral and anti-bacterial drugs. Fifteen (15) compounds of those have been tested for binding affinity to the drug target protein (3CLpro) by a surface plasmon resonance (SPR) method and twelve (12) compounds (80.0%) were confirmed as binding to the protein.

This performance is clearly demarcated from current AI-based activity prediction technologies and indicates that the capability of AI-guided INTENDD® was unquestionably verified. Interprotein has applied a medical use patent for a part of those compounds and has a plan to prepare clinical studies in collaboration with other research organization.

Following the identification of repurposing drug candidates, Interprotein is now considering the possibility of candidate selection from investigational drugs as well as drug discovery researches of new chemical entity (NCE) in preparation for a future coronavirus-caused pandemic.

Based on the present result, Interprotein rapidly respond to not only to COVID-19 but also virus- and bacteria-triggered pandemic and contributes to drug discovery researches for other targets with our propriety technologies for molecular design and AI drug discovery.

Contact:

Hirotsugu KOMATSU, Ph. D., R&D and BD Division
Interprotein Corporation
E-mail : info@interprotein.com