

Drug screening for SARS CoV2 at DBT-ILS, Bhubaneswar

Research group headed by Dr Anshuman Dixit at DBT's Institute of Life Sciences (ILS), Bhubaneswar, have used state of the art bioinformatics techniques to screen the FDA approved drugs against thirteen SARS-CoV2 proteins in order to identify drugs for quick repurposing. The strategy was to identify potential drugs that can target multiple viral proteins simultaneously and originates from the fact that individual viral proteins play specific roles in multiple aspects of viral lifecycle such as attachment, entry, replication, morphogenesis and egress, and targeting them simultaneously will have a better inhibitory effect.



Furthermore, Dr Dixit team has analyzed that if the identified molecules can also affect the host proteins whose expression is differentially modulated during SARS-CoV2 infection. The differentially expressed genes were identified using the analysis of NCBI-GEO data (GEO-ID: GSE-147507). A pathway and protein-protein interaction network analysis of the identified differentially expressed genes led to the identification of network hubs that may play important roles in SARS-CoV2 infection. Therefore, targeting such genes may also be a beneficial strategy to curb disease manifestation. The group has successfully identified molecules that can bind to various SARS-CoV2 and human host proteins. This study will help researchers in the identification and repurposing of multipotent drugs for the treatment of COVID-19.

The SARS-CoV2 is a highly contagious pathogen that causes a respiratory disease named COVID-19. The COVID-19 pandemic has affected about 23 million people globally

(identified cases as on 24th August 2020). Unfortunately, there is no standard cure for the disease, although some drugs are under clinical trials. There is an urgent need of drugs for the treatment of COVID-19 and a lot of efforts are being directed towards the identification of molecules that can be helpful in the management of COVID-19.

Link: <https://chemrxiv.org/>

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