International Conference on
"Recent Trends in Structural Bioinformatics and Computer Aided Drug Design"
[ICSBCADD'2019]
11th - 13th December, 2019

Inhibitor targets for misfolded proteins and neurodegenerative diseases & blood brain barrier

Sundramurthy Kumar

Translational Neuroscience & Cognitive Neuroimaging Centre (CoNiC), Lee Kong Chain School of Medicine (LKC Medicine), Nanyang Technological University, Singapore-636921.
E-mail: s_kumar@ntu.edu.sg

Neurodegenerative diseases (NDDs), including Alzheimer's disease (AD) and Parkinson's disease (PD), present a major health burden worldwide, in general, and due to fast ageing population. A better understanding of the disease mechanisms of NDDs using proteomic and biochemical approach to find the interactions of the NND and NND related pathway proteins. This proteomic and biochemical approach would give us a basic understanding on functions of the NDD proteins. The information on biochemical functions will help us to identify a targeted approach to determine the unexplored root causes of the NDD's.

In this approach we use different NDD related proteins and their inhibitors/antibody to determine the interactions. The insights of biochemical studies can be obtained using the biochemical and biophysical studies of targeted NDD proteins and the inhibitors using various permutation combinations.

With these approaches we would be able to have an idea about the unexplored NDD protein interactions.

References:

1. Gupta, A. Gandhimathi, P. Sharma and B. Jayaram; ParDOCK: An All Atom Energy Based Monte Carlo Docking Protocol for Protein-Ligand Complexes, Protein & Peptide Letters, 2007, 14, 632-646.
2. Minghua Deng, Kui Zhang, Shipra Mehta, Ting Chen∗ , Fengzhu Sun; Prediction of protein function using protein-protein interaction data. Journal of Computational Biology, 10(6): 947-960, 2003
3. Maria Andreasena,b, Nikolai Lorenzenc,DanielOtze; Interactions between misfolded protein oligomers and membranes:A central topic in neurodegenerative diseases BiochimcaetBiophysicaActa 1848 (2015) 1897-1907