Evaluation and validation of synergistic effect of predicted Amyloid-Beta (Aβ) inhibitor by deep neural network approach and gold nanoparticles on the Alzheimer’s disease

**Aman Chandra Kaushik1, Ajay Kumar4, Zhennan Peng2, Abbas Khan1, Muhammad Junaid1, Arif Ali1, Shiv Bharadwaj3 and \*Dong Quing Wei1**

1State Key Laboratory of Microbial Metabolism and School of life Sciences and Biotechnology, Shanghai Jiao Tong University, Shanghai 200240, China

2College of Life Sciences, Lanzhou University, Lanzhou, China

3Nanotechnology Research and Application Center, Sabanci University, Istanbul, Turkey

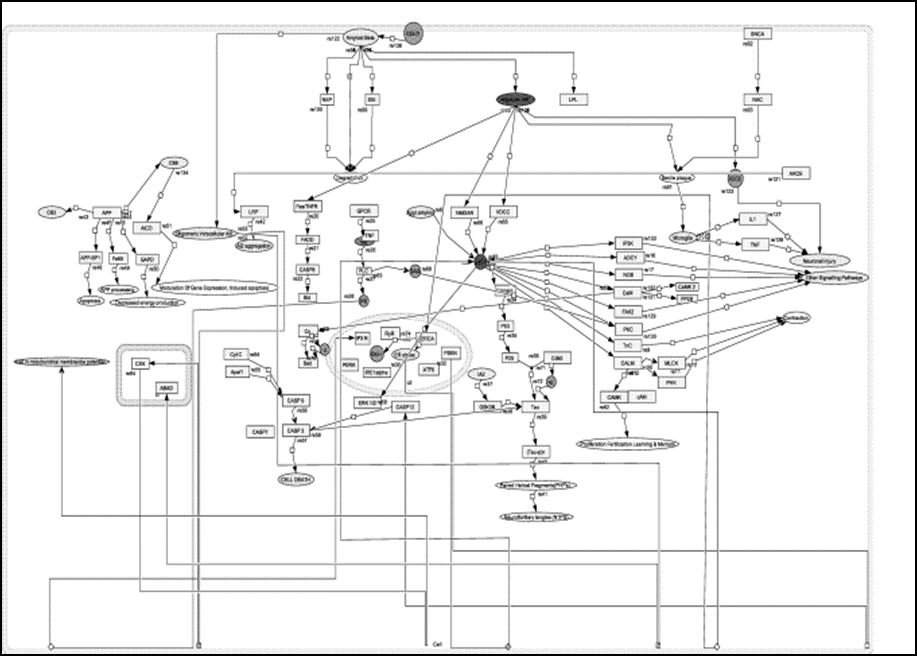
4Department of Mechanical and Electro-Mechanical Engineering, National Sun Yat-Sen

University, Kaohsiung City 804, Taiwan

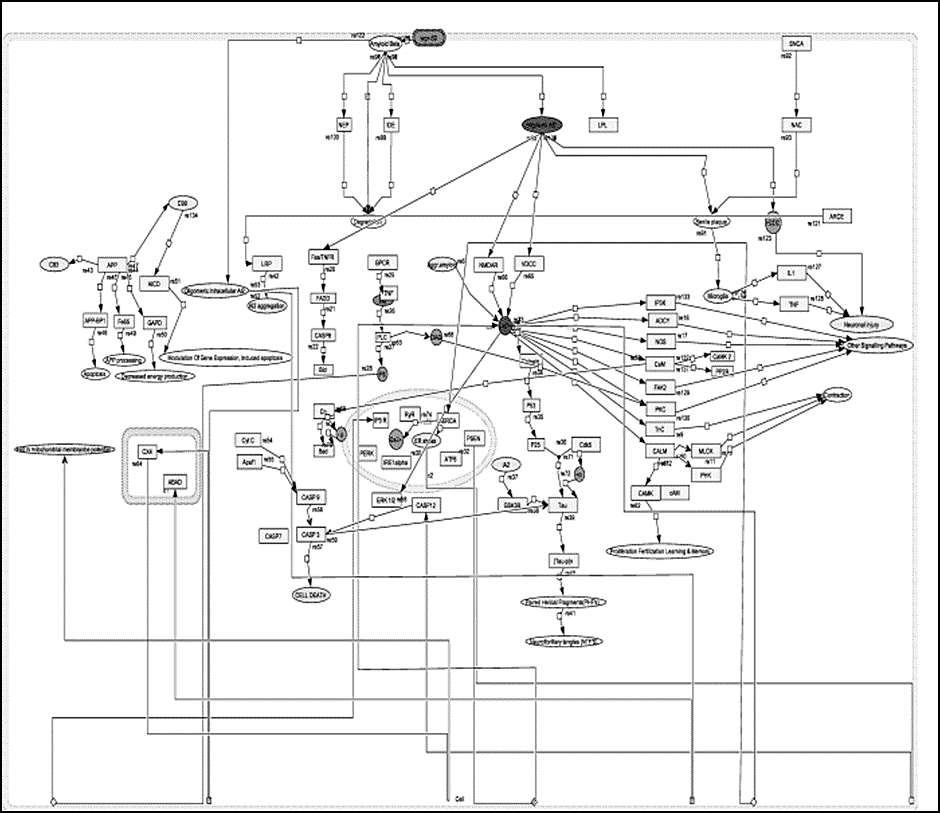
**\*Corresponding Author-** [**dqwei@weislab.com**](mailto:dqwei@weislab.com)

**Results and Discussion**

**S1. Systems Biology approach to predict dynamic changes in Alzheimer Disease**

****

**FIG. S1**. The complete biochemical pathway of AD induced by Aβ-42 and treated with wgx-50+AuNP complex generated by employing deep neural network approach based virtual screening reflected the inhibition of AD.

****

**FIG. S2**. The complete biochemical pathway of AD induced by Aβ-42 and treated with only wgx-50 generated by employing deep neural network approach based virtual screening reflected the inhibition of AD.