

Research Communication

Sci. and Cult. 91 (9–10) : 524-529 (2025)

***IN SILICO* PHARMACOLOGICAL INVESTIGATION OF *BAUHINIA BLAKEANA* LEAF AGAINST DIABETES RELATED DISEASES**

SAPTARSHI SAMAJDAR

Diabetes mellitus cures have been extensively investigated in recent decades, but the majority of medications suffer from multidrug resistance. To overcome this barrier, a series of natural compounds from Bauhinia blakeana leaves were examined using the molecular docking approach against two protein receptors, 1XU7 and 3C45. Out of the natural ligands, 9-dodecyltetradecahydrophenanthrene revealed to be the most promising in both proteins, with higher binding affinity and lower toxicity than regular metformin. Thus, all of these data point to a potential new medication strategy for diabetes.

Keywords: Molecular docking, ADME studies, Toxicity prediction, Molecular dynamics
