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Phytotherapeutics of *Vicia faba* L. in Parkinson's Disease: An *in silico* Approach

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ABSTRACT *Vicia faba* L. has a major role in the traditional diet and medicinal system of different countries. *V. faba* is a natural source of the precursor of dopamine (Levodopa) which is used treatment of Parkinson's disease. The objective of the study is to investigate the *in vitro* antioxidant capacity, Gas Chromatography-Mass Spectrometry and docking of *V. faba* against Parkinson's disease. The values indicated that acetone and aqueous extract exhibited a higher value of total phenolic and flavonoid contents respectively. The results of the 2, 2- diphenyl-1-picrylhydrazyl free radical scavenging assay and ferric reducing antioxidant power assay displayed that aqueous extract had better radical scavenging activity. In the 2,2-azinobis (3-ethylbenzothiazoline-6-sulfonate) radical scavenging assay, ethanolic extract showed a lower Inhibitory Concentration$_{50}$ value. *In silico* analysis indicated that the phyto-compounds present in *V. faba* has a higher binding affinity to the dopamine1 receptor. The results suggested that *V. faba* has good antioxidant properties and can be used as a dopamine agonist for the dopamine1 receptor which may be useful in combating Parkinson's disease.