

Anthocyanin - A potential antiviral drug

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Nature by far has been serving the mankind as the hub of medicines. A notable and inspiring number of ancient and modern drugs were isolated and formulated from the naturally available sources. One such plant constituent of interest is anthocyanins. These are the flavonoid group of plant pigments which give red, blue or purple colour based on the pH. Anthocyanins are rich in berries like red raspberry, black currant, blackberry, etc. and are less in banana, pear and potato. These H₂O soluble vacuolar pigments are reported to have vast medical applications which include their role in vision, cardiovascular diseases, protection against heart attacks, acts as anti-oxidants and also help in preventing the age related declines. The anthocyanins have a major role to play against anti-inflammation, reduces the carcinogenesis and also exhibits the antiviral properties.

In the present investigation, we tried to establish the best anthocyanin against the HIV protease, a target HIV drug. The HIV protease is imported from Protein Data Base (PDB) 1A8G. For this study, the known 10 compounds of anthocyanins were taken and the docking studies were conducted using the GOLD software. It was observed that the compound luteolinidin showed the highest fitness score of 33.43 and the active site amino acids residue include Ile 47, Asp 25, Ala 28, and Gly 51.