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Editorial

Metformin: A Magical drug for Diabetics

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Metformin is an antidiabetic drug used to treat type ii diabetes and recent studies on drug formulation in to nano particles size proven to show effective results compared to conventional metformin in blood glucose Management. The drug inhibits salivary amylase in NPs formulated form and salivary amylase shares around 98% homology in its active site configuration with pancreatic amylase and mode of function is found to be similar. Metformin may be inhibits both the enzymes due to 94% sequence homology and structural configuration till no experimental proofs and can delay the emptying of stomach there by preventing the sudden rise in blood glucose levels.

Since last decades little information is known about Protein - drug interactions of metformin with proteins like GLUT, Insulin receptor and glycolysis enzymes like hexo kinase. Recent work on these studies confirmed drug interactions with protein by hydrogen bonding and both hydrogen bonding and ionic interactions with hexo kinase. Formation of metformin NPs can be monitored through UV-Visible spectrophotometer by taking metformin as a standard and there is usually shift in wavelength by Metformin NPs when they form compared to conventional metformin.

The drug does not show hydrophobic interactions or pie interactions with any of the antidiabetic proteins mentioned and x-ray crystallography structure of metformin NPs and study of interactions with enzyme amylase will be valuable.