Category: Nanotechnology

Computational Profiling of Deleterious Non-Synonymous SNP’s in \textit{HFE}

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\textbf{Abstract}

Liver cirrhosis describes a condition where scar tissue gradually replaces healthy cells in liver. The main causes are sustained, excessive alcohol consumption, viral hepatitis B and C, and fatty liver disease - however, there are other possible causes. Hemochromatosis is most common form of iron overload disease. Three types of hemochromatosis are primary hemochromatosis, also called hereditary hemochromatosis; secondary hemochromatosis; and neonatal hemochromatosis. The \textit{HFE} gene helps regulate the amount of iron absorbed from food and inherited genetic defects or mutation in \textit{HFE} \([C282Y]\) cause primary hemochromatosis. Computational approach is sought to determine other similar mutations in this gene. \textit{In-silico} tools such as SIFT, Polyphen 2.0, and PROVEAN were employed to determine the various deleterious ns-SNPs of \textit{HFE} that may influence cystic fibrosis.

\textbf{Keywords:} Cystic Fibrosis, \textit{HFE}, ns-SNP’s, \textit{In-silico} analysis

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