Enzyme-pathway metabolic network analysis of hypertriglyceridemia

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Hypertriglyceridemia (HTG) is defined as a disease caused by an abnormal concentration of triglycerides in blood. HTG can be classified into primary and secondary types. Primary HTG is associated with genetic variations and a secondary HTG has many complex reasons like diabetes mellitus, insulin resistance, hyper tension, hypothyroidism etc. There are an estimated 20,000-25,000 annotated genes in human body. Identifying the genes responsible for a particular disease is crucial for disease cure. All living systems control their activity through enzymes. Most cellular reactions would occur about a million times faster than they would in the absence of an enzyme. So, identifying the enzymes for a disease and their interactions would lead to further biomedical research. In this study, we have scaled down the potential enzymes from disease genes responsible for HTG and the enzyme-pathway network was constructed to facilitate the drug curing process. Then, we analyzed the enzyme-pathway metabolic network thus constructed for prioritized or target enzymes among the 33 enzymes classified for the disease. This method can be improvised for other diseases in future.

Biography

V Srinivasa Rao has completed his Master’s program from Andhra University and doctorate degree at the age of 42 years from Berhampur University. He is the principal evaluator for the UGC project named Mining Alzheimer’s Disease Signal Transduction Modulatory Drug Target Networks. He has published more than 30 papers in reputed journals. He is presently heading the department of Computer Science Engineering at VR Siddhartha Engineering College.

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