



I-IR Interaction Exploration and Computational Investigation of Evolution of IRS1

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ABSTRACT

Insulin receptor substrate (IRS) proteins play a crucial role in insulin signalling by docking and activating insulin receptors. It is a well-known fact that IRS family emerged in vertebrates. To have a better understanding of evolution of IRS1 and its connection with the regulation of metabolism controlled by insulin, it's very important to have the know-how of closely related species. The key molecular interactions playing a vital role in insulin and insulin-receptor interaction are studied along with phylogenetic conservation and evolution of IRS1. Numerous methods including statistical analysis were employed to find its probability of occurrence. The studies provide a rapid way to evolution and make confident predictions.

Graphical Abstract

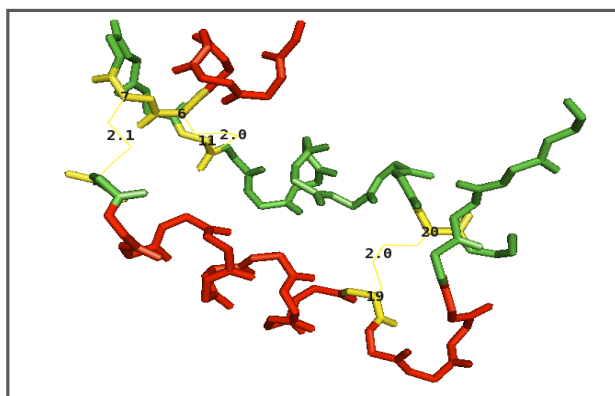


Image showing insulin three-dimensional structure represented in sticks with inter-chain and intra-chain disulphide bonds labelled with bond lengths

Keywords: Insulin receptor substrate-1 protein, Interaction visualization, Phylogeny, Evolution, Vertebrate.