Insilco molecular characterization of insulin like growth factor 1 (IGF-1) and design primers, insert into vector for cloning, protein building & its interactions for type II diabetes treatment in humans

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Insulin growth factor I (IGF-1) also known as somatomedin C or mechano growth factor is a protein that in humans is encoded by the IGF-1 gene, which is playing key role in Type II diabetes in humans. We studied the IGF-1 gene sequence comparatively with evolutionary related species, and analysed by finding ORF, Transcription binding factors to know minimal expression. To know more functional aspects of gene we done primer site prediction and design and test with new primers for monitoring the replication process to code exact product, later on we did mutation identification and through INDEL gene modification, rectified the gene to functional state. After this we done restriction analysis for both wanted gene sequence (IGF-1) & suitable Host vector for molecular cloning to generation amplified gene copies to understand the gene complexity and functionality, next we build the protein 3-D structure for IGF-1 gene with functional domains & evaluate (SAVS) and we studied its interactions with its Tyrosine kinase receptor to obtain proper functionality to decrease the diabetes.