

Identification of therapeutic targets in *Leishmania donovani* and *Leishmania infantum*

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The availability of genomic data of human parasites in public databases has made it possible to find drug targets in the pathogen. One such approach is genome subtraction where we try to find genes which are essential to the pathogen but not present in the host. Such gene products can be proved as potential targets in the parasites, with absolutely no host toxicity issues. The leishmaniasis are a group of diseases caused by protozoan parasites of the genus *Leishmania*. The parasite is transmitted by bites from sand-flies infected with the parasite. Leishmaniasis presents in three main clinical forms: cutaneous, mucocutaneous and visceral, which are associated with a broad range of signs, symptoms and degrees of severity. The present study aims at identifying Potential Candidate Drug Targets In *Leishmania Donovani* and *Leishmania Infantum* through genome subtraction approach using Pairwise comparison.

Protein sequences belonging to the parasite was derived from NCBI genome and compared with human proteins. Non-homologous proteins were compared to essential genes present in Database of essential genes. Proteins which passed the screening parameters were considered essential to the parasite. These essential proteins were compared to Protein Data Bank, to obtain significant hits belonging to *Leishmania Donovani* and *Leishmania Infantum*. These hits were studied to obtain promising Targets in the parasite. Six potential targets were identified overall, namely topoisomerase, petridine reductase (PTR1) phosphoribosyl transferase, Trypanothione Reductase, OMP decarboxylase and Glyoxalase II.

Biography

Shivanjali Saxena and suhail ahmad khan are pursuing Btech-Bioinformatics from Amity university, lucknow. the project work entitled "Identification of therapeutic targets in *Leishmania donovani* & *Leishmania infantum*" is a bonafide work carried out by Shivanjali saxena and suhail ahmad khan, at Institute of Computational Biology, Bangalore, in partial fulfillment for the award of degree of 'Bachelor of Technology in Bioinformatics' of AMITY University, Lucknow, during May 2012-June 2012. This work was done under Ms. Tanima shree, the research associate of Institute of computational biology (IOCB).

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Time dependent and spectrophotometric analysis of blood clotting property of marigold leaf extract and comparative study of its antibacterial activity

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A time dependent blood clotting analysis was done after separating blood cells from the plasma. It was observed that on increasing the concentration of marigold leaf extract the time taken in formation of blood clot was decreased. Time dependent and spectrophotometric analysis suggests us that for 0.6ml of leaf extract in 1ml of blood gave the best result. The antibacterial effect of marigold leaf extract at room temperature against 3 multidrug bacterial isolates (2 gram negative and 1 gram positive) including *Klebsiella pneumoniae*, *Pseudomonas aeruginosa* and *Staphylococcus aureus* were studied by well diffusion method. The maximum and minimum antibacterial effect of marigold leaf extract among those micro-organisms was obtained on *Klebsiella pneumoniae* and on *Staphylococcus aureus* respectively. These results suggest that marigold leaf extract can be used as natural antiseptic blood clotting agent and thus the use of other chemical clotting agents can be minimized which would be beneficial for environment and consumer health; or a better ointment can be prepared for wound healing purpose after testing it on animals for its efficiency.

Biography

Shivendu Ranjan is in B.Tech Biotechnology 3rd year at the age of 21 years from VIT University, Vellore. He was the Student Organizer of VIT Biosummit '12, a meet between industrialists and academia. He has published 3 papers in reputed journals. He was also student coordinator in many college tech and cultural fests. He has good presentation skills with leadership and team management skills.

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