

# International Conference on Nurturing Sustainability through Innovations in Science and Technology for Global Welfare



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## Characterisation studies of mucus obtained from Pangasianodon hypophthalmus for its therapeutic potential

Therapeutic properties of fishes are known since immemorial because of the presence of various fatty acids in it. Docosahexaenoic acid(DHA) and Oleic acid is a fatty acid that is known for curing heart and inflammation related diseases. Fish mucus is known to have antimicrobial, anti-inflammatory and wound healing potency. In this regard our study aims to characterize the lyophilized fish mucus of Pangasianodon hypophthalmus and evaluate its therapeutic potential. FTIR, NMR, GCMS analysis and docking studies was performed for analysis. FTIR results showed the presence of nitro and alcoholic groups. NMR spectral analysis showed the presence of alcohol, amine and alkene groups. CGMS analysis results showed the presence of oleic acid constituting 45% of peak area followed by Eicosane and many more. Further docking was performed to check for the binding capacity of Oleic acid against selected targets like TNF- $\alpha$ , VEGF, IL6, NF-kB, TP53 to evaluate anti-inflammatory and wound healing, The results showed that, there was presence of hydrogen bonds found between the ligand and target except IL6, thus regulating the genes in the presence of Oleic acid. Further gene expression studies and invivo has to be performed for discovery of potential drug.

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