A Study on the Antibacterial Properties of Fish Skin Mucus from Selected Fresh Water Fishes

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ABSTRACT

Fish faces lots of health challenges as the environment they inhabit contains a wide range of pathogenic and non pathogenic microorganisms. Unless physically damaged, the fish integument provides an effective barrier in preventing pathogens to penetrate host tissue. Fish skin mucus, a key component of fish innate immune system acts as a first line defensive barrier between the fish and potential pathogens. It is very effective against both Gram-positive and Gram-negative infectious bacteria. Hence, fish skin mucus offers a unique opportunity to study the innate antimicrobial defense systems. The present attempt has been made to find out the potency of the mucus collected from seven different fresh water fishes, *Catla catla, Labeo rohita, Cirrhinus mrigala, Ctenopharyngodon idella, Hypophthalmichthys nobilis, Cyprinus carpio* and *Clarias batrachus* against different human and fish pathogenic bacterial strains viz. *K. pneumonia, P. aeruginosa, E. coli, S. epidermidis, S. aureus, B. cereus* and *A. hydrophilla.* Antibacterial activities were measured in term of zone of inhibition and compared with Amikacin as control. The result reveals that skin mucus of different fishes exerts variation in their Antibacterial activity in controlling the growth of tested bacteria. In some of the cases the zone of inhibition was equivalent to that of Amikacin.

Keywords: Fish, Microorganism, Fish skin mucus, Zone of inhibition, Antibacterial activity.