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Short Communication

Mucus: Nonspecific Defense Mechanisms

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The mucosal immune system comprises the largest immune. The Nonspecific defense mechanisms are skin, mucous membranes, secretions, excretions, enzymes, inflammatory responses and the presence of other diseases. The epidermal mucus of fish serves as the first line of defence against infectious organisms, physical and chemical irritants and pollutants. Also, many bacteria inhabits in the epidermal mucus of fish. It has already been reported in certain species that, the epidermal mucus possess potent anti-microbial activity. Previously, anti-bacterial activity was detected on mucus samples of salmon and cod. Antibacterial compounds on fish epidermal mucus are important in controlling the fish diseases in aquaculture. As most aquatic breeders keep the fish and aquatic animals in high densities, possibility for exposure to pathogen (bacteria, parasites, or viruses) throughout production cycle is becoming high. This causes high mortality in aquatic animals which in turn lead to economical loss in fish farming industry. Bio-active peptides isolated from various fish mucus showed efficient anti-microbial and anti-cancer activity and remains as a thrust area of research in the current scientific scenario. Molecular phylogenetic analysis has opened up various rooms for research in the current scenario. The polymerase chain reaction (PCR) is used to amplify the cytochrome oxidase subunit I gene (COI) of eukaryotic mitochondrial DNA. The mucus immune system is the famous component of the fish and higher vertebrate immune system, it provide protection at the main sites of infectious of the system.

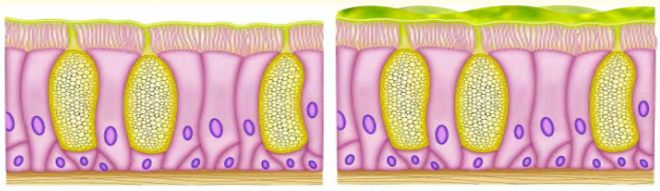

Image 1: Image Credit: ilusmedical/Shutterstock.com.

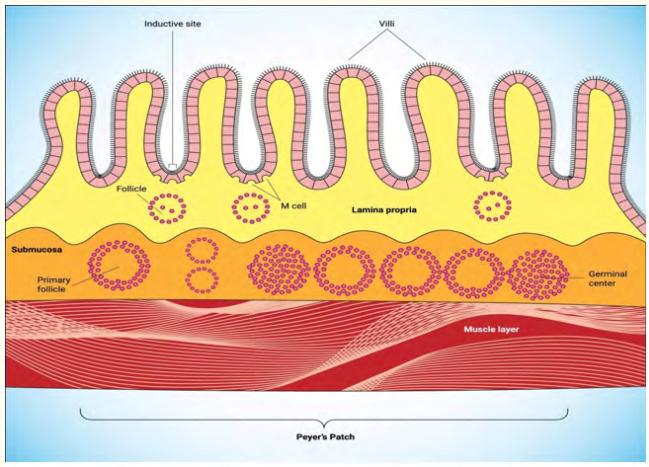

Image 2: Structural components of the mucosal barrier. Image Credit: CLUSTERX/Shutterstock.com.