

ABSTRACT

Interferons are secreted cytokine which mediates the innate immune response in all vertebrates especially against viruses. IFN-alpha particularly has antiproliferative and immunomodulatory activities. By estimating the effect of proteins induced by IFN alpha (TNF, Mx, IL-1beta and IL8) in *Cirrhinus mrigala*, functional importance of IFN alpha has been analyzed. Starting from the sequence analysis to structure and interaction analysis, predicting post translational modifications sites; factors regulating immune response were investigated. IFN alpha can regulate the immune system of *Cirrhinus mrigala* in normal as well as pathological states.