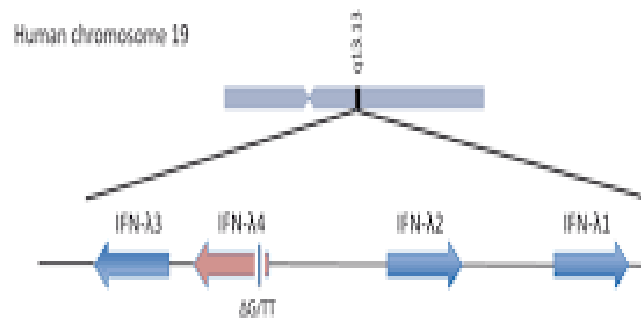


## Role of Type III IFNs in visceral leishmaniasis / Kala azar possible approaches for treating such neglected diseases

Scientists at DBT's National Institute of Biomedical Genomics (NIBMG), Kalyani have recently discovered type III interferons (IFNs), also known as lambda interferons. These are the least studied IFNs. They are located in tandem on chromosome 19 and known to modulate immunity in infectious and autoimmune diseases through activation of JAK-STAT pathway and upregulation of interferon-stimulating genes (ISGs). Their role in *leishmania* infection is yet to be elucidated.



Interferons (IFNs) are the cytokines belonging to a large group of proteins which activate the immune cells by imparting protection from infections and helps in eradication of pathogens. There are three classes of IFNs: Type I IFN, Type II IFN and Type III IFN. All the three classes are beneficial for fighting viral infection. The role of Type I IFN is previously known in *Leishmania* infections.

Visceral leishmaniasis (VL), also known as Kala azar may lead to high fatality if not diagnosed and treated properly. The most typical symptoms of this parasitic killer are fever, swelling of spleen and liver. It is caused by sand fly vector found in tropical or temperate regions of the world. In India, most of the cases are reported in Bihar. The commonly available drugs for treatment of VL are amphotericin B, miltefosine, paromomycin etc.

The disease outcome is associated with impairment of the host immune cells leading to non-protective immunity. Thus, therapeutic strategies involved in inducing immunomodulation

are beneficial for developing protective immunity in order to combat this deadly parasitic disease.

The study was funded by the DBT-RA program, and it fills the lacuna of knowledge by testing the effect of interferon lambdas during *Leishmania* infection.

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