

Scientist at ILS, Bhubaneswar found a new protein NCoR1 to fight infections

By Dr. Bilqeesa Bhat

Researcher at Immuno-genomics and Systems Biology laboratory at ILS, Bhubaneswar has found NCoR1 protein which is very important in producing strong defence against pathogenic bacteria and viruses. The team has been involved in understanding the role of dendritic cells (DCs) in protecting body against infections. They found that DCs without NCoR1 proteins cannot kill the infectious pathogens.

Immune system is a complex network of cells and proteins which performs the function of recognizing/reacting foreign material and pathogens. The DCs detect pathogens by presence of a particular type of receptors known as pathogen recognition receptors (PRR's) with help of Pattern Associated Molecular Patterns (PAMPs).

After identification of pathogen, a signal is sent inside the cell to generate response against that particular pathogen. The DC's get activated, and migrate towards nearby secondary lymph nodes in body and develop immune response with help of specific T and B cell against pathogen.

Besides developing a strong understanding of how DC's help in protecting body from infections, Scientist at ILS, Bhubaneswar also studied the role of DC's in generating T-cell mediated protection to body. The team found that during infection, NCoR1 protein is very important for generation of proactive response by activating DCs against pathogenic bacteria and viruses.

The DC's without NCoR1 protein may show decreased inflammation but they still provide robust protection against Sendai virus and vesicular stomatitis causing virus. Overall, the extremely important observation made by the team at ILS demonstrates that NCoR1 protein is significant in killing pathogens. Also NCoR1 protein may find application in tissue transplantation.

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