

राष्ट्रीय प्रतिरक्षाविज्ञान संस्थान
National Institute of Immunology

Website Link : <https://nii.res.in/>

GRADUATE STUDENT SEMINAR

**EFFECT OF DIFFERENT HIGH-FAT
CONTAINING DIETS ON GUT HEALTH**

CHEN CHONGTHAM

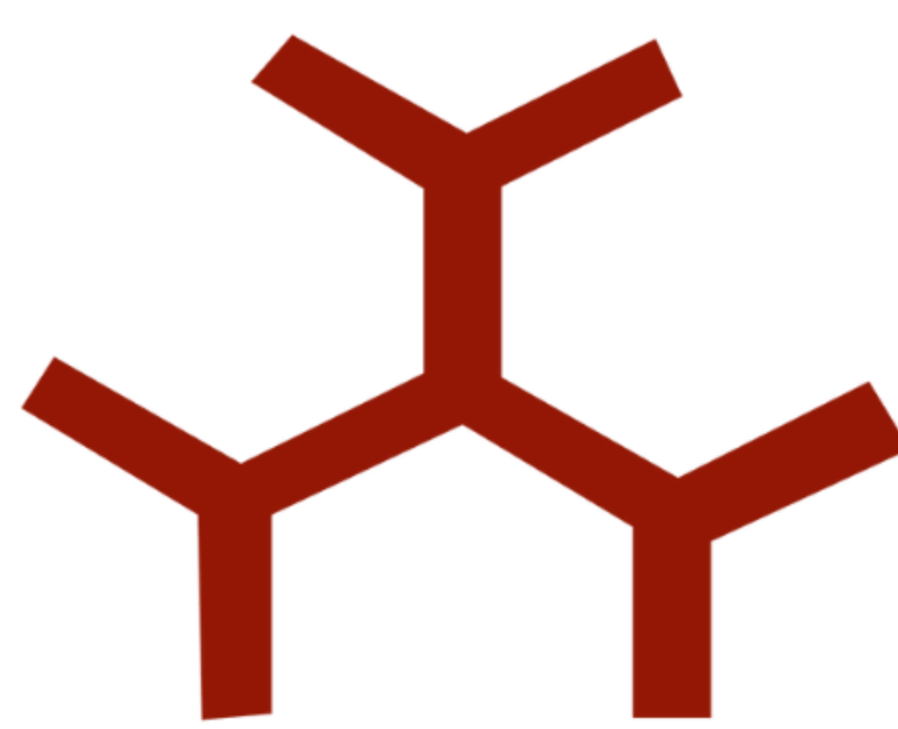
MOLECULAR GENETICS LABORATORY



The diet and microbiota are the main regulators of gut health. Gut dysbiosis can trigger or aggravate the inflammatory bowel disease (IBD). Recent studies suggest that diets enriched in fat can lead to increased risk of IBD. Here, we test if the composition of fat in the diet plays a significant role in the development of colitis. We used a chemical-induced colitis model to understand the effect of fat from different sources in the pathophysiology of colitis. Interestingly, we found that different high-fat containing diets can have distinct effects on colitis, ranging from aggravation of the disease to protection. Despite having higher fat content, one of the diets appears to play a protective role against colitis by inducing an anti-inflammatory milieu in the gut. The protection was mediated by increased antimicrobial peptides as well as a shift towards the microbiome involved in promoting gut health.

27 April 2023, 4.00 PM

GP TALWAR AUDITORIUM, NII



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GRADUATE STUDENT SEMINAR

DELINEATING THE POTENTIAL OF PNEUMOCOCCAL BIOTIN PROTEIN LIGASE AS A DRUG TARGET

SHIVANI KARALIA

NUCLEAR MAGNETIC RESONANCE LABORATORY



“Drug-resistant *Streptococcus pneumoniae* (DRSP) is emerging as a major cause of failure of treatment of pneumococcal and associated diseases, thereby demanding the exploration of drugs targeting its essential pathways. Biotin is one essential micronutrient and serves as a cofactor for various enzymes that require biotinylation for activation. A post translational biotin-attaching protein, Biotin protein ligase, is reported to be indispensable for the survival of *S. pneumoniae*. A remarkable difference in the structural organization of host as well as pathogen’s biotin protein ligase renders pneumococcal BPL as a potential drug target. Therefore, we have carried out an extensive study involving biochemical and biophysical characterization of this enzyme at a molecular level, in order to identify inhibitors against it for therapeutic avenues.

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