

## Research raises hope for immunocellular therapy to control food allergy

By Dr. Bilqeesa Bhat

Studies carried out in a pre-clinical model by Dr. Girdhari Lal and his group at the National Centre for Cell Science (NCCS), Pune, have for the first time revealed that immune cell like CCR9<sup>+</sup> dendritic cells also have the ability to suppress a gut-associated allergic immune reaction to chicken egg albumin. An allergic reaction to food is caused when the immune system is triggered by the presence of otherwise harmless proteins in the food. Chicken ovalbumin protein found in eggs can elicit such an immediate allergic reaction.

Dr. Lal's team also decoded how the CCR9<sup>+</sup> dendritic cells illicit immune reaction by interacting with other cells through various means, effectively controlling an undesirable allergic immune response. The research findings were recently published in the *European Journal of Immunology*. The valuable insights gained through the study suggest that it would be worth exploring whether a new immune cellular therapy for food allergies using CCR9<sup>+</sup> dendritic cells could be developed in the future.

Given that food allergies are caused when the immune system over reacts to a triggering component in the food, it is very important to understand how this system operates in comparison to an allergic response. The immune system is made up of different types of cells that function in diverse ways, play various roles, and interact with each other. This includes a specific type of immune cells known as CCR9<sup>+</sup> dendritic cells, which are involved in regulating the immune system of the body.

Food allergy is a serious and potentially life-threatening medical condition. About 25% of people in India suffer from various food allergies. About 3% of the Indian population has food allergies, which accounts for about 30,000 hospital admissions, and up to 200 deaths every year. Failure to identify the specific food item that triggers an allergic response can have devastating consequence, since it can sometimes even lead to death.

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