SIgN Immunology Seminar

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The Ontogeny of Food Allergy -Peanut Allergy-

Host
Dr Maria Lafaille
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Date
Tuesday, 4December 2012

Time
11am – 12pm

Venue
SIgN Seminar Room,
Immunos Building
Level 4
Biopolis

Food allergy is a growing health problem that currently affects 3.5% of the North American population and can cause symptoms ranging from diarrhea and/or urticaria to life-threatening systemic reactions termed anaphylaxis. The majority of food allergic reactions are induced by a limited number of food allergens. Among these, peanut (PN) allergy affects ~1-2% of the North American population, and there is evidence that its prevalence has doubled over the last 10 years. PN allergy is a severe food hypersensitivity which, unlike many others food allergies, is highly associated with anaphylaxis. An issue of the gravest concern is that whereas most food allergies are outgrown (i.e. loss of reactive antibodies and, therefore, clinical symptoms upon allergen exposure), PN allergy is characterized as being life-long in most individuals. Indeed, the most optimistic estimate is that only ~20% of those diagnosed with PN allergy outgrow it in their lifetime. A critical issue that remains to be elucidated is the ontogeny of PN allergy, i.e. how does one become allergic. While it is known that peanut allergy is an expression of Th2 immunity, the particular set of cells and molecules that facilitate this process remains largely unknown. Using an established murine model of PN allergy and anaphylaxis, we have investigated the specific role of a number of cells and epithelial cell-derived molecules, and underlying mechanisms, on key events involved in the initiation of PN allergy.