SIgN Immunology Seminar

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Food Immunology: what did we learn from breast milk?

Host
Dr John Connolly
Singapore Immunology Network, A*Star

Date
Thursday,
31 January 2013

Time
11am – 12pm

Venue
SIgN Seminar Room
Immunos Building
Level 4
Biopolis

The human body is attacked continuously by all kinds of danger signals. An effective immune system is pivotal in order to protect the human body. Disturbances in immune development and/or an immune disbalance can lead to many different diseases such as: allergies, cancer, auto-immunity, infections, chronic inflammatory diseases such as IBD and many more. Even in metabolic disorders such as obesity and several neurological/behavior disorders immune disturbances seemed to be involved. For traditional pharma as well as specialized nutrition industries and research groups the topic is key and it is fascinating how these two very different research areas tend to overlap more and more. In terms of immune development it is well recognized that human milk is unique. It contains many different immune modulating molecules and even specific microbes that can affect the immune system in the offspring. Human milk is in this way a unique example of "immuno-nutrition". Non-digestible human milk oligosaccharides (HMOS) are a unique group of molecules in breast milk playing a crucial role in gut health and immune development
The addition of specific mixture of non-digestible oligosaccharides scGOS/lcFOS (ratio 9:1) has been clinically proven to induce a gut microbiome which is comparable to the microbiome of breastfed infants. Beneficial effects have been observed on parameters of allergy, infection and inflammation in both animal studies and clinical trials with oligosaccharides, both in children and adults.
Both pharma as well as specialized–nutrition companies do see the highly relevance of non-digestible oligosaccharides for both prevention as well as treatment of some immune related disorders. However more research, multicenter trials, and long-term follow-up studies are needed in order to validate the uniqueness of non-digestible oligosaccharides in both classical pharma approaches as well as specialised and medical nutrition.