



# ISRHML REGIONAL WEBINARS

## WESTERN PACIFIC REGION

Antigen shedding in human milk: key for long term immune health?

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**Prof. Dr. Valerie Verhasselt,**  
Chair in Human Lactology, School of Molecular Sciences at the University of Western Australia (UWA)

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In addition of being a source of nutrients for the developing newborn, human milk contains thousands of bioactive compounds, which influence infant health in the short-term as exemplified by its major benefits on infectious disease prevention. Many of the human milk compounds also have the required characteristics to instruct immune development and guide long-term health. Prebiotics, probiotics, varied antimicrobial molecules, all have the potential to shape the composition and function of the establishing gut microbiota, which is known to be a major determinant of proper immune function. Another and less explored way human milk can instruct long-term immunity, is through antigen shedding. Here, we will review the evidence that antigens from maternal environment and more specifically from allergen sources and pathogens, are found in human milk. We will gather the data that provide clues on how antigens in human milk may be especially suitable to elicit an immune response in early life and educate the infant immunity towards tolerance or defense as needed. We propose this understanding is fundamental to guide maternal interventions leading to child-tailored vaccination, harmonious microbiota commensalism and lifelong allergen tolerance.