

# 14 JULY 2022

Thursday  
LECTURE

10.00 - 11.00 am



## A novel B cell-derived metabolite elicits anti-inflammatory macrophages and limits anti-tumor cytotoxic responses

### ABSTRACT

The evolving field of immunoregulation studies how the activity of lymphocytes is shaped by their local environment via a variety of receptor interactions with soluble and cell-bound proteins. However, small metabolites derived from metabolism of immune cells are likely present in both intracellular and extracellular milieu in vivo, many of which may have signaling potential we have yet to understand. A growing body of research addresses the flux in metabolic products produced and consumed by different immune cells in various stages of differentiation and activation. We hypothesized that water-soluble metabolites provide environmental cues which mediate interactions between immune cells and thereby regulate their functions. I will discuss how a small metabolite produced and secreted by B cells and plasma cells promotes monocyte differentiation into anti-inflammatory macrophages which secrete IL-10 and inhibit CD8+ T cell killer function and anti-tumor responses. We propose that in addition to cytokines and membrane proteins, small metabolites derived from B lineage cells have immunoregulatory functions, which may be pharmaceutical targets allowing fine-tuning of immune responses.



### SPEAKER

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