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for Cellular + Biomolecular Research
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“Fundamental roles of the innate-like natural antibodies in immune homeostasis”

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Immunology / Antibody engineering,

Lupus and Autoimmune disease

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Donnelly Centre James Friesen |

Cecil Yip Red Seminar Room

Abstract:

The composition of the early immune repertoire is biased with prominent expression of spontaneously arising B cell clones that produce IgM with recurrent and often autoreactive binding specificities. Amongst these naturally arising antibodies (NAbs) are IgM antibodies that specifically recognize damaged and senescent cells, often via oxidation-associated neo-determinants. These NAbs are present from birth and can be further boosted by apoptotic cell challenge. Recent studies have shown that IgM NAb to apoptotic cells can enhance phagocytic clearance, as well as suppress proinflammatory responses induced via Toll-like receptors, and block pathogenic IgG-immune complex (IC)-mediated inflammatory responses. Clinical surveys have suggested that anti-apoptotic cell (AC) IgM NAbs modulate disease activity in some patients with autoimmune disease. Taken together, the novel properties of this class of protective NAbs may directly blunt inflammatory responses through a primitive pathway for regulation of the innate immune system.

Host: Dr. Sachdev Sidhu