Title: Non-genomic oestrogen receptor signal in B lymphocytes: an approach towards therapeutic interventions for infection, autoimmunity and cancer

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Non-genomic oestrogen receptor signal in B lymphocytes: an approach towards therapeutic interventions for infection, autoimmunity and cancer

Running Title: Non-genomic ER signal in B lymphocytes

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Graphical Abstract

Intracellular signal pathways from plasma membrane bound oestrogen receptor (mER) and GPR30 in B cells. The ligands related and unrelated to oestrogen induce intracellular signals through mER and GPR30 to activate downstream cytoplasmic molecules. The signal pathways are shared with B cell receptor (BCR). A cross talk with different signal pathways is involved. The solid line arrowheads indicate reported track of signal while the dotted line arrowheads indicate most possible connections and proposition for future research.

Highlights

- Membrane bound oestrogen receptors regulate B cell signalling
- Membrane bound PLC and PIP2/IP3 initiate B cell signalling
- Fc receptor-like integral protein receptor modulate BCR signalling