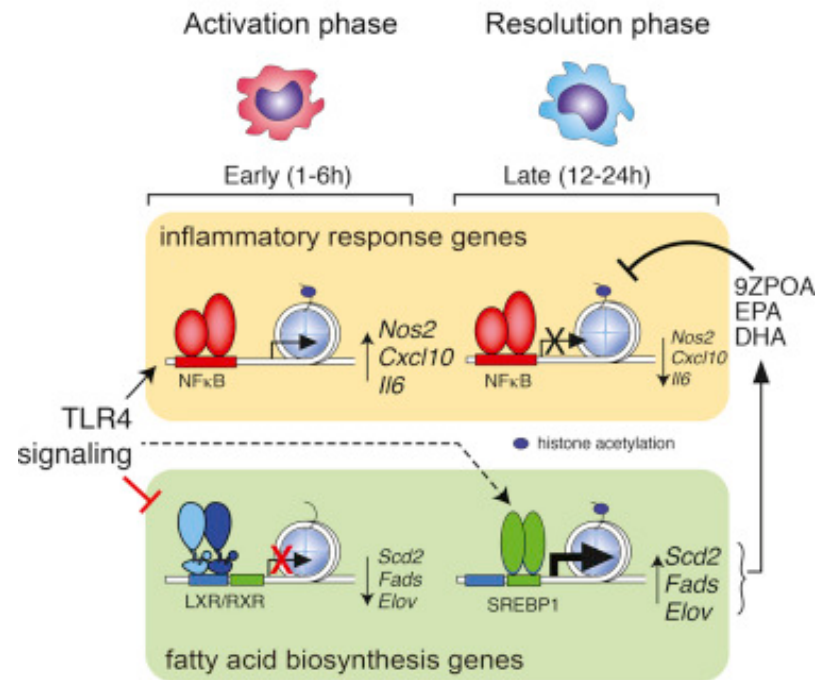


SREBP1 Contributes to Resolution of Pro-inflammatory TLR4 Signaling by Reprogramming Fatty Acid Metabolism.



Macrophages play pivotal roles in both the induction and resolution phases of inflammatory processes. Here, we identify a biphasic program of gene expression that drives production of anti-inflammatory fatty acids 12–24 hr following TLR4 activation and contributes to downregulation of mRNAs encoding pro-inflammatory mediators. Unexpectedly, this late program of anti-inflammatory fatty acid biosynthesis is dependent on SREBP-1 and results in the uncoupling of NFκB binding from gene activation. Our study provides evidence that SREBP1 also contributes to the resolution phase of TLR4-induced gene activation by reprogramming macrophage lipid metabolism.

Reference: Oishi et al., Cell Metab. 25(2):412-427, 2017.

Contact at University of Tsukuba: Prof. H Shimano)