Pathogen strategies can be identified using KEGG Pathway analysis

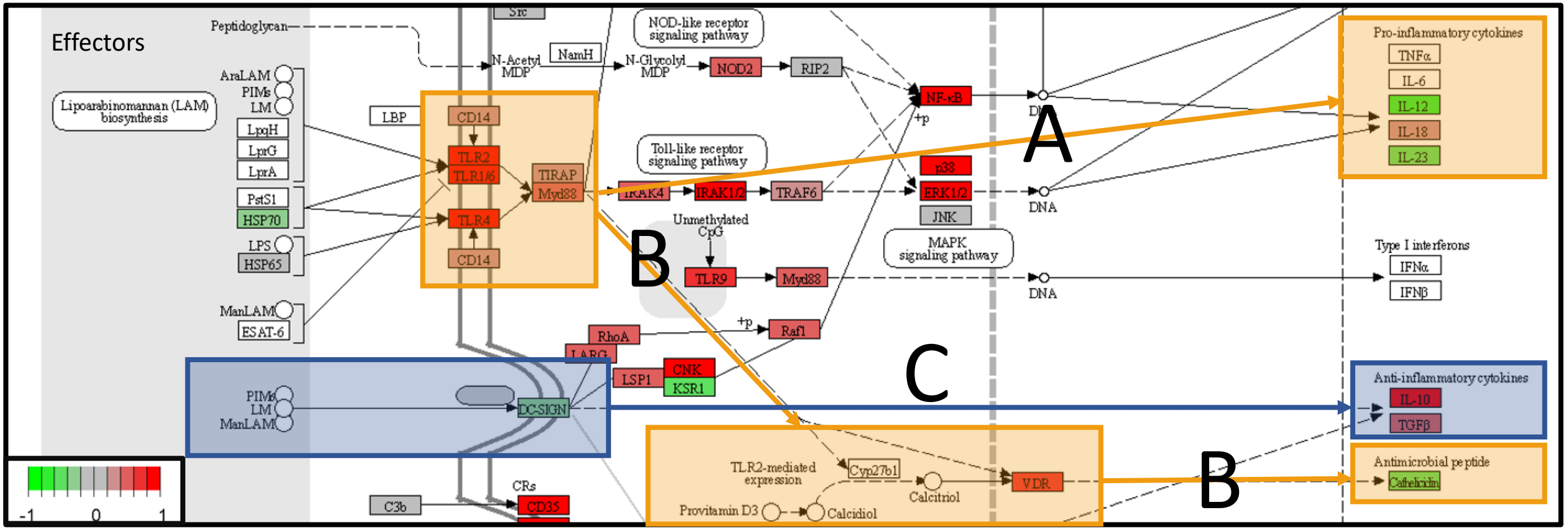

Figure: Gene enrichment analysis mapped on tuberculosis KEGG pathway diagram
(B) Upregulation of the Toll-like-receptors2, 4 and 1/6 by mycobacterium tuberculosis leads to downstream upregulation of Cyp27b1 and Vitamin D receptor (VDR). Cyp27b1 leads to increased metabolism of calcidiol to calcitriol, which binds VDR and leads to downregulation of the antimicrobial peptide cathelicidin. (orange)
(A) The same TLRs lead to downregulation of pro-inflammatory cytokines (IL-12, IL-23) via a signaling pathway including IRAK family proteins. (orange)
(C) Through a different receptor (DC-SIGN), anti-inflammatory cytokines are upregulated. The change in inflammatory cytokine balance may lead to lower response of the immune system, as the inflammation is contained to some extent. (blue)

→ This shows characteristics of tuberculosis infection strategy, as immune response loses potency (B) and inflammation is suppressed (A & C).