

## [ALAI/SMI Highlight: Have you heard of IL-40?](#)



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The closing plenary lecture at the Latin America Congress was presented by Albert Zlotnik from the University of California, Irvine. One of the highlights of Albert Zlotnik talk was the discovery of IL-40, by his research group, which was recently published in the *Journal of Immunology* (Catalan-Dibene *et al.*, 2017).

The IL-40 gene, *C17orf99*, is only found in the genome of mammals, suggesting that it plays an important role in immune responses in mammals. IL-40 cytokine is produced by fetal liver and bone marrow (BM). In the BM, CD45<sup>-</sup> cells, particularly stromal cells, were enriched in the production of IL-40. Catalan-Dibene *et al.*, observed reduced levels of B220<sup>+</sup> cells and pre-B cells in the bone marrow of *C17orf99* knock-out mice. This finding strongly suggested a role of *C17orf99* in B cell development in fetal live and BM. Additionally, they observed that activated B cells are the main source of IL-40 in the periphery. Researchers showed that IL-40 expression correlated with expression of IgA at the onset of lactation, and deletion of IL-40 in mice resulted in a significant reduction of IgA<sup>+</sup> B cells, peyers patches and IgA antibody levels. This was also associated with significant differences in IL-40 knock-out (KO) mice compared with wild type mice, where IL-40 KO mice had higher proportions of bacteroidetes and lower firmicutes phyla compared to wild type.

In summary, data presented by Alber Zlotnik, represents the first study that has identified the novel cytokine IL-40, that plays an important role in B cell ontogeny.

Journal Article: Catalan-Dibene et al., 2017. [Identification of IL-40, a Novel B Cell– Associated Cytokine.](#) Journal of Immunology

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