

# Human B cells produce CXCL10 in response to stimulation with *Mycobacterium tuberculosis* Antigens

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## Abstract

**Background:** In the field of human immune responses to *Mycobacterium tuberculosis*, the chemokine CXCL10 has been of clinical interest for some time. It is well established that CXCL10 is produced by human monocytes, but a few reports have also found CXCL10 production by human B cells. The objective of this study was to investigate CXCL10 production by human B cells in response to *ex vivo* stimulation with *M. tuberculosis* antigens.

**Methodology/Principal Findings:** We analyzed human blood samples from 25 volunteer donors using multiparameter flow cytometry, and found here that a small population (between 0.3% and 3.9%) of the total B cell population produce CXCL10 in response to *ex vivo* stimulation with *M. tuberculosis* antigens. T cells did not produce CXCL10, but CXCL10 production by B cells was dependent on the presence of antigen-specific T cells recognizing the antigen.

**Conclusion:** Human B cells are able to produce the chemokine CXCL10 in a T-cell dependent manner. These findings provide further understanding of how B cells may influence human tuberculosis granuloma formation and control of the infection.