BAFF enhances chemotaxis of primary human B cells: a particular synergy between BAFF and CXCL13 on memory B cells.

Badr G, Borhis G, Lefevre EA, Chaoul N, Deshayes F, Dessirier V, Lapree G, Tsapis A, Richard Y.

Abstract:

B-cell-activating factor of the TNF family, (BAFF), and a proliferation-inducing ligand (APRIL) regulate B-lymphocyte survival and activation. We report that BAFF, but not APRIL, increased the chemotactic response of primary human B cells to CCL21, CXCL12, and CXCL13. The BAFF-induced increase in B-cell chemotaxis was totally abolished by blockade of BAFF-R and was strongly dependent on the activation of PI3K/AKT, NF-kappaB, and p38MAPK pathways. BAFF had similar effects on the chemotaxis of naive and memory B cells in response to CCL21 but increased more strongly that of memory B cells to CXCL13 than that of naive B cells. Our findings indicate a previously unreported role for the BAFF/BAFF-R pair in mature B-cell chemotaxis. The synergy between CXCL13 and BAFF produced by stromal cells and follicular dendritic cells may have important implications for B-cell homeostasis, the development of normal B-cell areas, and for the formation of germinal center-like follicles that may be observed in various autoimmune diseases.

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