

Publication**BAFF-R expression correlates with positive selection of immature B cells****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 1193846**Author(s)** Tussiwand, Roxane; Rauch, Melanie; Flück, Lukas A; Rolink, Antonius G**Author(s) at UniBasel** [Rolink, Antonius G.](#) ; [Tussiwand, Roxane](#) ;**Year** 2012**Title** BAFF-R expression correlates with positive selection of immature B cells**Journal** European journal of immunology**Volume** 42**Number** 1**Pages / Article-Number** 206-16**Keywords** BAFF-R, Immature B cells, Mature B cells, Receptor editing, Transitional B cells

The interaction between BAFF and BAFF-R is crucial for the development of mature B cells. Here, we report that the expression of BAFF-R is first detectable on a fraction of mouse CD19(+) CD93(+) IgM(+) CD23(-) and human CD19(+) CD10(+) IgM(+) BM B cells. This BAFF-R(+) BM B-cell population shows higher levels of surface IgM expression and decreased RAG-2 transcripts than BAFF-R(-) immature B cells. When cultured, mouse BAFF-R(-), but not BAFF-R(+) immature B cells spontaneously undergo B-cell receptor editing. However, BAFF-R(+) immature B cells cultured in the presence of an anti-kappa light chain antibody are induced to undergo receptor editing. This receptor editing correlates with down-modulation of surface BAFF-R expression and the up-regulation of RAG-2 at the RNA level. B-cell receptor (BCR) cross-linking on splenic T1 B cells results in down-modulation of the BAFF-R, and receptor editing and RAG-2 up-regulation in a minor fraction of B cells. BCR cross-linking on splenic T2/3 B cells results in partly down and partly up-modulation of BAFF-R expression and no evidence for receptor editing. Overall, our data indicate that BAFF-R expression is tightly regulated during B-cell development in mouse and human and its expression is correlated with positive selection.

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