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Absolute BlyS

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The B-cell cytokine BlyS/BAFF (B-cell activating factor; also referred to as TALL-1, THANK or zTNF4) plays a critical role in B-lymphocyte development. Two receptors for the tumor necrosis factor family of ligands bind to BlyS/BAFF - the B-cell maturation antigen (BCMA) and TAC1. In the August 16 ScienceXpress, two papers from researchers at the Cambridge-based biotechnology company Biogen describe the role of BAFF and its receptors in B-cell function. Thompson *et al.* identified a third receptor, BAFF-R, on mouse and human B-lymphocytes. They discovered that a mutant mouse line A/WySnJ expressed an aberrant BAFF-R receptor that accounts for its B-cell phenotype (namely, reduction in number of mature peripheral B-cells despite normal bone marrow and peritoneal B1 cells). In an accompanying paper, Schiemann *et al.* describe the phenotype of mice lacking the BlyS/BAFFgene. The knockout mice had a dramatic loss of follicular and marginal zone B-cells in the spleen and reduced serum antibody levels. The *BlyS/BAFF* knockout phenotype is similar to that of the A/WySnJ strain, but differs from those of mice lacking *BCMA* or *TAC1*. These two studies clearly demonstrate the significance of the Blys/BAFF factor, and its novel receptor BAFF-R, in B-cell development *in vivo*.

References

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