sBAFF trimer binds BAFFR

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references

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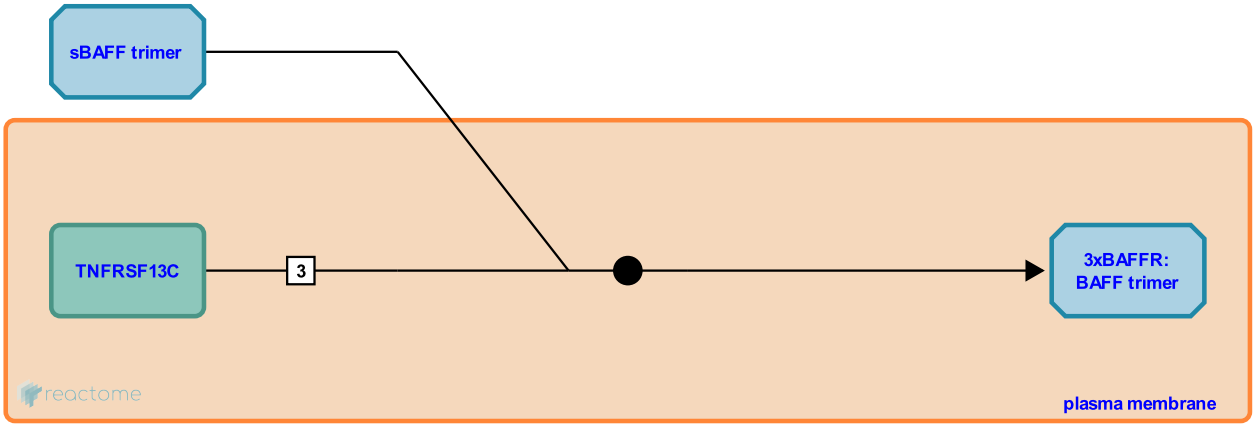
sBAFF trimer binds BAFFR ↗

Stable identifier: R-HSA-5676599

Type: binding

Compartments: plasma membrane, extracellular region



B cell activating factor of the TNF family (BAFF, also known as TNFSF13B) is a type II transmembrane protein that binds and predominantly activates its receptor BAFFR (TNFRSF13C) to transmit survival and growth signals to B cells (Li et al. 2008). BAFF is the most critical soluble factor for peripheral B-cell maturation and survival. BAFF is expressed by T cells, macrophages and dendritic cells, but not B cells. BAFF is primarily synthesised as membrane-bound but is proteolytically processed at furin consensus sequence to produce soluble protein. Processed, soluble BAFF adopts a usual trimeric form that appears to be the primary bioactive form of BAFF, but it is the only member of the family that can also further assemble as an ordered, capsid-like structure comprising twenty trimers. A trimeric BAFF ligand binds to three independent BAFFR (TNFRSF13C) receptor to initiate signalling (Liu et al. 2002, 2003, Mackay & Schneider 2009). BAFFR is predominantly expressed in B cells and contains a typical TNF receptor-associated factor (TRAF)-binding sites in their cytoplasmic domains which interacts with TRAF3 but not TRAF2 upon ligand interaction (Morrison et al. 2005). BAFF can also bind to other TNF superfamily (TNFSF) members, B cell maturation antigen (BCMA also known as TNFRSF17) and transmembrane activator and CAML interactor (TAC also known as TNFRSF13B) (Gross et al. 2000).

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Editions

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