

Cytokines

Human Recombinant BTN1A1

Butyrophilin 1A1, His tag



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Catalog #100-1327

100 µg

Product Description

Butyrophilin 1A1 (BTN1A1) is a glycoprotein belonging to the butyrophilin (BTN) family within the immunoglobulin superfamily. Butyrophilins are composed of two extracellular immunoglobulin domains and a transmembrane region, with a conserved B30.2 domain (PRYSPTY) present in most members (Malinowska et al.). BTN1A1 contains a His-residue tag at the carboxyl end of the polypeptide chain. Butyrophilins have been found to regulate the immune system by exerting stimulatory or inhibitory effects on immune cells. BTN1A1 along with BTN2A2 was found to inhibit proliferation of CD4+ and CD8+ T cells, and also affected T cell metabolism and expression of IL-2 and IFN- γ (Smith et al.). Due to these modulatory effects on T cells, BTN1A1 may have a role in inhibiting the development of autoimmune diseases (Steffler et al.). BTN1A1 is also expressed in mammary glands and is required for the secretion of milk lipids during lactation (Ogg et al.).

Product Information

Alternative Names: BT, BTN, BTN1

Accession Number: Q4VAN1-1 (Ala271-Arg242) was expressed with a polyhistidine tag at the C-terminus.

Amino Acid Sequence: APFDVIGPPE PILAVVGEDA ELPCRLSPNA SAEHLELRWF RKKVSPAVLV HRDGREQAE QMPEYRGRAT LVQDGIKGR VALRIRGVRV SDDGEYTCFF REDGSYEEAL VHLKVAALGS DPHISMQVQE NGEICLECTS VGWYPEPQVQ WRTSKGEKFP STSESRNPDE EGLFTVAASV IIRDTSAKNV SCYIQNLLLQ QEKKVEISIP ASSLPRAHHH HHHHHHHH

Predicted Molecular Mass: 25.4 kDa

Species: Human

Formulation: Lyophilized from sterile PBS, pH 7.4. Trehalose (5%), mannitol (5%), and 0.01% TWEEN® 80 are normally added as protectants before lyophilization.

Source: HEK293 cells

Specifications

Activity: Not available

Purity: \geq 92%

Endotoxin Level: Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is \leq 1 EU/ μ g protein.

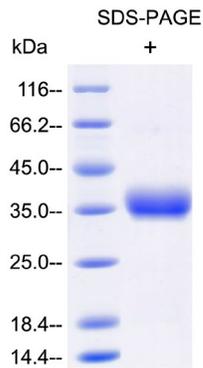
Preparation and Storage

Storage: Store at -20 to -80°C.

Stability: Stable as supplied for 12 months from date of receipt.

Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.25 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



Human Recombinant BTN1A1 was resolved with SDS-PAGE under reducing (+) conditions and visualized by Coomassie Blue staining. Human Recombinant BTN1A1 has a predicted molecular mass of 25.4 kDa and an apparent molecular mass of 36.3 kDa due to glycosylation.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines, or contact us at techsupport@stemcell.com.

References

- Malinowska M et al. (2017) Butyrophilins: an important new element of resistance. *Cent J Immunol* 42(4): 399–403.
- Ogg SL et al. (2004) Expression of butyrophilin (Bt1a1) in lactating mammary gland is essential for the regulated secretion of milk-lipid droplets. *Proc Natl Acad Sci U S A* 101(27): 10084–9.
- Smith IA et al. (2010) BTN1A1, the mammary gland butyrophilin, and BTN2A2 are both inhibitors of T cell activation. *J Immunol* 184(7): 3514–25.
- Steffel A et al. (2000) Butyrophilin, a milk protein, modulates the encephalitogenic T cell response to myelin oligodendrocyte glycoprotein in experimental autoimmune encephalomyelitis. *J Immunol* 165(5): 2859–65.

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