Recombinant Human BTNL8 Fc Chimera

Catalog Number: 9359-BT

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived

Human BTNL8 (Gln18-Lys238) Accession # Q6UX41-1	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis: No results obtained. Gln18 inferred from enzymatic pyroglutamate treatment revealing Trp19

Structure / Form: Disulfide-linked homodimer

Predicted Molecular Mass: 52 kDa

SPECIFICATIONS

SDS-PAGE: 53-63 kDa, reducing conditions

Activity: Measured by its ability to enhance anti-CD3-induced IFN-γ secretion of mouse $CD3^+$ T cells. The ED_{50} for this effect is 0.5-2.5 µg/mL.

Endotoxin Level: <0.10 EU per 1 µg of the protein by the LAL method.

Purity: >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation: Lyophilized from a 0.2 µm filtered solution in PBS and Tween® 80. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution: Reconstitute at 200 µg/mL in PBS.

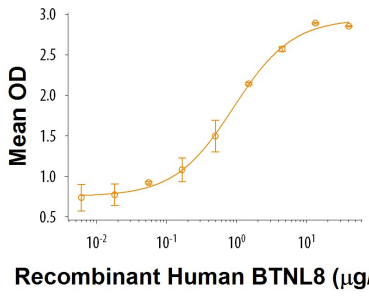
Shipping: The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage: **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity



Recombinant Human BTNL8 Fc Chimera (Catalog # 9359-BT) enhances anti-CD3-induced IFN-γ secretion by mouse $CD3^+$ T cells. The ED_{50} for this effect is 0.5-2.5 µg/mL.

BACKGROUND

Butyrophilin-like 8 (BTNL8) is a member of the BTN/MOG Ig-superfamily and functions as a negative regulator of immune cell activation (1). Human BTNL8 is a 500 amino acid (aa) type I transmembrane glycoprotein that contains a signal peptide followed by an extracellular domain (ECD), a transmembrane region and a short cytoplasmic domain (2). The ECD of human BTNL8 shares 88% sequence identity with the ECD of mouse BTNL8. BTNL8 has two alternatively spliced forms: B7-like and BTN-like. Both isoforms of BTNL8 are expressed in a range of human tissues (3). The complete immunological function of BTNL molecules is only beginning to emerge. BTNL8 has been shown to be important in initiation of primary immune responses, suggesting a role in priming of naïve T lymphocytes (3). Down-regulation of BNTL8 mRNA levels has been associated with ulcerative colitis and colon cancer (4). BTNL8 are expressed in colon, lung, testis and neutrophils, and its expression is significantly decreased in ulcerative colitis, colonic tumors as compared to unaffected tissue (4). Soluble BTNL8-Fc fusion protein binds to resting, but not activated T cells. *In vitro*, BTNL8 co-stimulates T cell proliferation and cytokine production. In vivo injections of BTNL8-Fc significantly increases production of Ag-specific IgG during the primary but not the secondary immune response (3).

References:

1. Arnett, H.A. *et al.* (2007) J. Immunol. **178**:1523.
2. Arnett, H.A. *et al.* (2009) Cytokine **46**:370.
3. Chapoval, A.I. *et al.* (2013) Mol Immunol. **56**:819.
4. Lebrero-Fernández C. *et al.* (2016) Immun Inflamm Dis. **4**:191.

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