Recombinant Mouse BTNL3 Fc Chimera

Catalog Number: 10222-BT

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived mouse BTNL3 protein

Recombinant Mouse BTNL3 (Glu28-Pro241) Accession # Q7TST0.3	IEGRMDP	Mouse IgG_{2a} (Glu98-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Glu28
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	51 kDa

SPECIFICATIONS

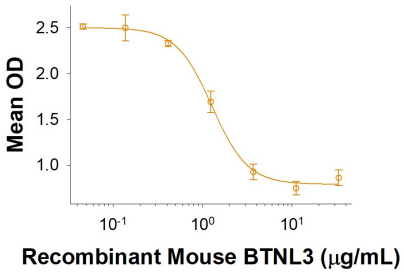
SDS-PAGE	45-65 kDa, under reducing conditions
Activity	Measured by its ability to inhibit IL-2 secretion by mouse T cells in the presence of anti-CD3. The ED_{50} for this effect is 0.4-4 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Supplied as a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Shipping	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 6 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after opening. • 3 months, -20 to -70 °C under sterile conditions after opening.

DATA

Bioactivity



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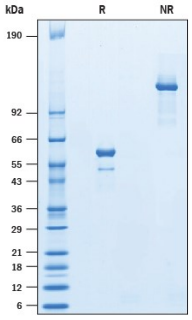
SDS-PAGE



2 µg/lane of Recombinant Mouse BTNL3 Fc Chimera (Catalog # 10222-BT) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 45-65 kDa and 90-130 kDa, respectively.

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BACKGROUND

Butyrophilin-like 3 (BTNL3), also referred to as BTNL1, Gm316, and Ng10, is a member of the BTN/MOG Ig-superfamily and shares structural resemblance to the B7 family (1). BTNL3 is a type I transmembrane protein that consists of an extracellular domain (ECD) containing two IgV domains, a single transmembrane domain, and a cytoplasmic domain with a B30.2/SPRY region. Mature mouse BTNL3 shares 30% and 80% amino acid sequence identity with human and rat BTNL3, respectively. BTNL3 mRNA has been identified in many tissues including small intestine, colon, liver, lung, bone marrow and spleen tissue, and it is highly expressed in neutrophils (2-6). The specific function of BTNL3 has yet to be fully elucidated, but BTNL3 is suggested to be a novel negative regulator for T cell activation and immune diseases (7). In humans, BTNL3 has been shown to form heterodimers with BTNL8 and overexpression of this complex leads to CD69 upregulation and T cell antigen receptor downregulation (8). In mice, BTNL3 can form heterodimers with BTNL6 and modulate local immune responses and intraepithelial lymphocytes–epithelial cell interaction pathways (9). Additionally, BTNL3 has been shown to bind directly to Vγ4+ T cell receptor, suggesting a role in γδ T cell regulation (10). BTNL3 expression has also been found to be down-regulated in colon cancer tumors (11). R&D Systems in house data indicate that mouse BTNL3 protein inhibits the secretion of IL-2 from anti-CD3 activated mouse CD3+ T cells.

References:

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