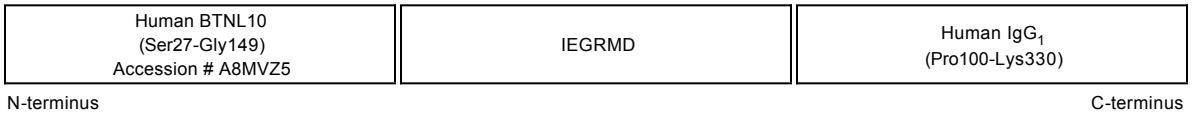
Recombinant Human BTNL10 Fc Chimera

Catalog Number: 10014-BT

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human BTNL10 protein



N-terminal Sequence Analysis	Ser27
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	40.6 kDa

SPECIFICATIONS

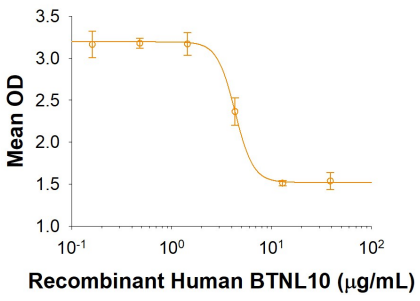
SDS-PAGE	48-55 kDa & 96-108 kDa (non-reducible dimer), reducing conditions
Activity	Measured by its ability to inhibit anti-CD3 antibody induced IFN-gamma secretion by human peripheral blood mononuclear cells (PBMC). The ED_{50} for this effect is 1.5-7.5 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the 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. 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	• 12 months from date of receipt, ≤ -20 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, ≤ -20 °C under sterile conditions after reconstitution.

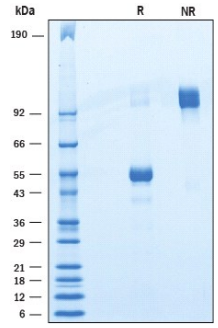
DATA

Bioactivity



Recombinant Human BTNL10 Fc Chimera (Catalog # 10014-BT) inhibits IFN-gamma secretion by human peripheral blood mononuclear cells in the presence of anti-CD3 antibody. The ED_{50} for this effect is 1.5-7.5 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Human BTNL10 was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 48-55 kDa and 95-110 kDa, respectively.

BACKGROUND

Butyrophilin-like 10 (BTNL10) is a member of the BTN/MOG Ig-superfamily and functions as a negative regulator of immune cell activation (1). Human BTNL10 is a 291 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. The ECD of human BTNL10 features a single IgV and a poorly defined IgC domain. The IgV domain of human BTNL10 shares 53% and 52% sequence identity with the equivalent ECD domain of mouse and rat BTNL10, respectively. Although just recently identified, BTNL10 is one of only five butyrophilins conserved between human and mouse (2). While the complete immunological function of BTN/BTNL molecules is only beginning to emerge, they have been shown to be important in immunity by regulating T cell function (2-4). Recent efforts have focused on BTN/BTNL as potential therapeutic targets for a wide range of diseases (2-4). Currently, both the expression pattern and native function of BTNL10 remain unknown. Our data indicate that BTNL10 inhibits the human T cell activation, including IL-2, IFN- γ secretion, and T cell proliferation.

References:

1. Arnett, H.A. *et al.* (2007) J. Immunol. **178**:1523.
2. Arnett, H.A. *et al.* (2012) Immunogenetics. **64**:781.
3. Abeler-Dörner L. *et al.* (2012) Trends Immunol. **33(1)**:34.
4. Arnett, H.A. and Viney J.L. (2014) Nat Rev Immunol. **14(8)**:559.

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