

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. Biotinylated via sugars.		
Predicted Molecular Mass	52 kDa (unlabeled)		

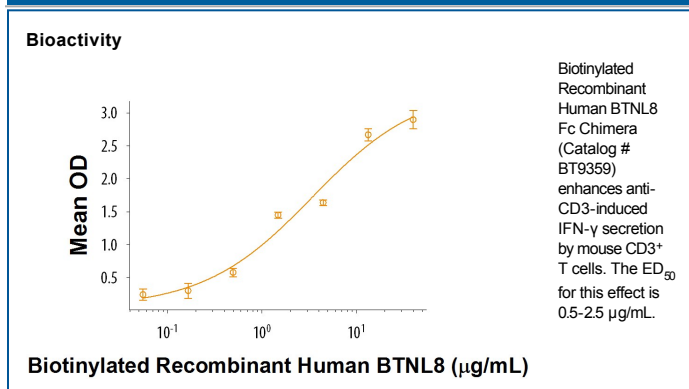
SPECIFICATIONS

SDS-PAGE	56-63 kDa and 100 - 160 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 μ g/mL.
Endotoxin Level	<0.10 EU per 1 μ g 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 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 μ g/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 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



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 BTNL8 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.