

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived		
	Human BTN2A2 (Gln33-Val237) Accession # Q8WVV5	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus

N-terminal Sequence Analysis No result obtained. Gln33 inferred from enzymatic pyroglutamate treatment revealing Phe34

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 50 kDa

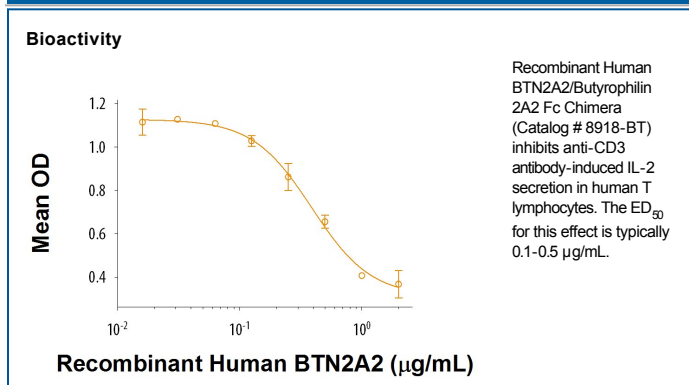
SPECIFICATIONS

Activity	Measured by its ability to inhibit anti-CD3 antibody induced IL-2 secretion in human T lymphocytes. The ED ₅₀ for this effect is typically 0.1-0.5 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 100 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. <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 2A2 (BTN2A2) is a widely expressed 65 kDa type I transmembrane glycoprotein that functions as a negative regulator of immune responses (1). Mature human Butyrophilin 2A2 consists of a 233 amino acid (aa) extracellular domain with two immunoglobulin-like domains, a 21 aa transmembrane segment, and a 237 aa cytoplasmic domain. Within the Ig-like domains, human Butyrophilin 2A2 shares 70% aa sequence identity with mouse and rat Butyrophilin 2A2. Alternative splicing generates additional isoforms of human Butyrophilin 2A2 that lack the first, second, or both Ig-like domains as well as isoforms with substitutions and deletions in the cytoplasmic region. Within the immune system, Butyrophilin 2A2 is expressed on thymic epithelial cells, naïve B cells, splenic NK cells, dendritic cells, and peritoneal macrophages and is up-regulated with cell activation (2, 3). Butyrophilin 2A2 inhibits T cell proliferation and activation and enhances the development of FoxP3⁺ regulatory T cells (2, 3). Its up-regulation in the hippocampus is associated with schizophrenia (4).

References:

1. Arnett, H.A. and J.L. Viney (2014) Nat. Rev. Immunol. **14**:559.
2. Smith, I.A. et al. (2010) J. Immunol. **184**:3514.
3. Ammann, J.U. et al. (2013) J. Immunol. **190**:5030.
4. Sinkus, M.L. et al. (2013) Brain Behav. Immun. **32**:51.