

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse BTN2A2/Butyrophilin 2A2 protein Gln30-Trp248, with a C-terminal 6-His tag Accession # A4QPC6
N-terminal Sequence Analysis	No results obtained. Gln30 inferred from enzymatic pyroglutamate treatment revealing Phe31
Predicted Molecular Mass	26 kDa

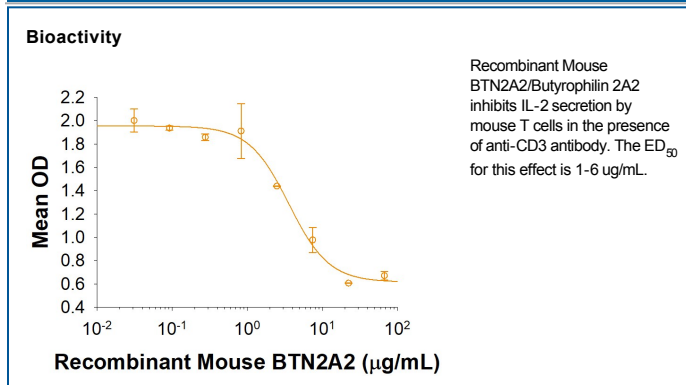
SPECIFICATIONS

SDS-PAGE	38-45 kDa, 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 1-5 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 EDTA. 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. <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 mouse Butyrophilin 2A2 consists of a 215 amino acid (aa) extracellular domain with two immunoglobulin-like domains, a 21 aa transmembrane segment, and a 249 aa cytoplasmic domain. Within the Ig-like domains, mouse Butyrophilin 2A2 shares 71% and 90% aa sequence identity with human and rat Butyrophilin 2A2, respectively. Alternative splicing generates an additional isoform of mouse Butyrophilin 2A2 with a deletion and substitution 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.