Recombinant Human BTN3A3 His-tag

Catalog Number: 1350-BT

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human BTN3A3 protein Gln30-Trp248, with a C-terminal 6-His tag Accession # O00478-1
N-terminal Sequence Analysis	Gln30
Predicted Molecular Mass	24 kDa

SPECIFICATIONS

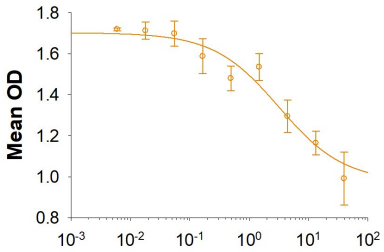
SDS-PAGE	28-37 kDa, reducing conditions
Activity	Measured by its ability to inhibit anti-CD3 antibody induced IL-2 or IFN-gamma secretion by human T cells. The ED_{50} for this effect is 1-6 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized 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.** • 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.

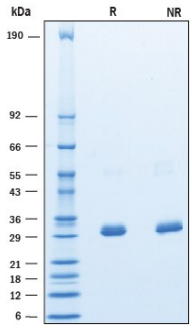
DATA

Bioactivity



Recombinant Human BTN3A3 (Catalog # 1350-BT) inhibits anti-CD3 antibody induced IFN-gamma secretion by human T cells. The ED_{50} for this effect is 1-6 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Human BTN3A3 was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 28 -37 kDa.

BACKGROUND

BTN3A3 (Butyrophylin subfamily 3 member A3), is a type 1 transmembrane glycoprotein belonging to the Ig superfamily. BTN molecules have three subfamilies, BTN1-3 and are composed of two Ig domains, a single transmembrane domain, and a large C-terminal domain located in the cell cytoplasm (1, 2). Mature human BTN3A3 consists of a 219 amino acid (aa) extracellular domain (ECD), a 21 aa transmembrane segment, and a 315 aa cytoplasmic domain. Within the ECD, human BTN3A3 shares 45% and 41% aa sequence identity with mouse and rat BTN3A3, respectively. The BTN3A subfamily of butyrophilins (BTN3A1, BTN3A2 and BTN3A3) are expressed by most human immune cell subsets, including T cells, B cells, monocytes, dendritic cells and natural killer (NK) cells (2, 3). In in vitro studies, the BTN3A-specific monoclonal antibody bound to BTN3A directly on the T cell surface, driving the phosphorylation of the subfamily member BTN3A3, and initiating an inhibitory signaling cascade that resulted in decreased T cell proliferation and cytokine production (2). Single nucleotide polymorphisms (SNPs) in BTN3A3 was reported to be associated with increased susceptibility to ovarian cancer, supporting the notion that butyrophilins might contribute to immune evasion in oncology settings (4).

References:

1. Rhodes, D.A. *et al.* (2015) J. Immunol. **194**:2390.
2. Yamashiro, H. *et al.* (2010) J. Leukoc. Biol. **88**:757.
3. Messal, N. *et al.* (2011) Eur. J. Immunol. **41**:3443.
4. Peedicayil, A. *et al.* (2010) PLoS ONE **5**:e8884.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449