Human BTN3A1 / CD277 Protein (ECD, Fc Tag)

Catalog Number: **15973-H02H**

General Information

Gene Name Synonym:

BT3.1; BTF5; BTN3.1; CD277

Protein Construction:

A DNA sequence encoding the human BTN3A1 (NP_919423.1) (Met1-Gly254) was expressed with the Fc region of human IgG1 at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE.

Endotoxin:

< 1.0 EU per μg protein as determined by the LAL method.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Gln 30

Molecular Mass:

The recombinant human BTN3A1 consists 463 amino acids and predicts a molecular mass of 50.9 kDa.

Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

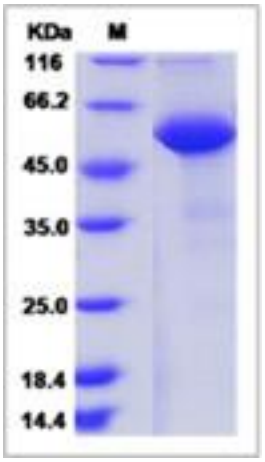
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

BTN3A1 has the structure of a type I receptor of the Ig superfamily and is part of a family of seven BTN receptors encoded by genes in the MHC. BTN molecules are composed of two Ig domains (IgV, IgC2), a single transmembrane domain, and a large carboxyl-terminal domain termed B30.2 (or PRYSPRY) located in the cell cytoplasm. There are three human BTN3A loci, BTN3A1, BTN3A2, and BTN3A3, and clear orthologs of BTN3A molecules, now called CD277, are absent from the mouse genome. Despite its similarity to B7 molecules, BTN3A1 was proposed to act not as a coreceptor or costimulatory molecule, but rather to directly present pAg to the γδ TCR in a manner analogous to MHC-restricted peptide presentation. However, this model of BTN3A1 function has been challenged by conflicting data, which show pAg binding to a positively charged pocket in the cytosolic B30.2 domain, and that BTN3A1 does not directly engage the γδ TCR. This contradictory picture has emerged as a result of the complexity of the system and in particular by the use of endogenous and exogenous routes of Ag delivery in in vitro assays.

References

3.Rhodes DA, Chen H-C, Price AJ, *et al.* Activation of human γδ T cells by cytosolic interactions of BTN3A1 with soluble phosphoantigens and the cytoskeletal adaptor periplakin. Journal of immunology (Baltimore, Md?: 1950). 2015;194(5):2390-2398.