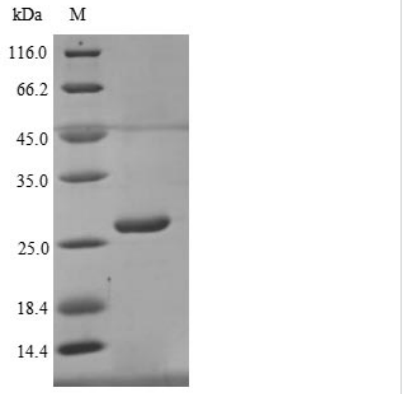
Recombinant Human Butyrophilin subfamily 3 member A1 (BTN3A1), partial

Product Code	CSB-YP002873HU
Relevance	Plays a role in T-cell activation and in the adaptive immune response. Regulates the proliferation of activated T-cells. Regulates the release of cytokines and IFNG by activated T-cells. Mediates the response of T-cells toward infected and transformed cells that are characterized by high levels of phosphorylated metabolites, such as isopentenyl pyrophosphate.
Abbreviation	Recombinant Human BTN3A1 protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	O00481
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	QFSVLGPSGPILAMVGEDADLPCHLFPTMSAETMELKWVSSSLRQVVNVYAD GKEVEDRQSAPYRGRTSILRDGITAGKAALRIHNVTASDSGKYLCYFQDGDFY EKALVELKVAALGSDLHVDVKGYKDGGIHLECRSTGWYPQPQIQWSNNKGEN IPTVEAPVVADGVGLYAVAASVIMRGSSGEGVSCTIRSSLLGLEKTASISIADPF FRSAQRWIAALAG
Research Area	Immunology
Source	Yeast
Target Names	BTN3A1
Protein Names	CD277
Expression Region	30-254aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	26.2 kDa
Protein Length	Partial
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Human Butyrophilin subfamily 3 member A1 (BTN3A1) is expressed in a yeast system, spanning amino acids 30-254. This partial protein includes an N-terminal 6xHis-tag for simplified purification and detection. The product achieves a purity of over 90%, as confirmed by SDS-PAGE analysis, which appears suitable for research applications requiring high purity.

BTN3A1 is a protein that seems to modulate immune responses. Part of the butyrophilin family, it likely plays a role in cellular signaling pathways. Research suggests BTN3A1 interacts with immune cells, indicating its potential importance in studies of immune system regulation.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Antibody Development and Validation Studies

This recombinant BTN3A1 protein fragment (30-254aa) may serve as an immunogen or antigen for developing monoclonal or polyclonal antibodies targeting human BTN3A1. The N-terminal 6xHis tag allows for straightforward purification and immobilization during antibody screening assays. High purity levels (>90%) suggest reliable epitope presentation for antibody binding studies and specificity validation. ELISA-based assays could potentially characterize antibody binding kinetics and cross-reactivity profiles using this protein.

2. Protein-Protein Interaction Studies

Pull-down assays might benefit from the 6xHis-tagged BTN3A1 fragment to identify and characterize potential binding partners or interacting proteins. The tag allows immobilization on nickel-affinity matrices, which could capture interacting molecules from cell lysates or purified protein libraries. This approach appears particularly valuable for mapping interaction domains within the 30-254aa region and understanding BTN3A1's molecular partnerships in cellular environments.

3. Structural and Biochemical Characterization

This purified BTN3A1 protein fragment provides material for biophysical studies. These might include circular dichroism spectroscopy, dynamic light scattering, and analytical ultracentrifugation to examine folding properties and oligomerization state. The defined amino acid boundaries (30-254aa) make it appropriate for domain-specific structural analysis and stability studies. The yeast expression system and high purity level likely ensure adequate protein quality for detailed biochemical characterization experiments.

4. Cell-Based Binding and Localization Studies

Researchers could potentially use the recombinant BTN3A1 fragment as an external probe in cell-based assays to study receptor binding or cell surface interactions. Fluorescent labeling or biotinylation of the protein may enable flow cytometry analysis or microscopy-based localization studies. This application allows investigation of BTN3A1's interaction with cell surface receptors or its binding specificity across different cell types under controlled experimental conditions.

Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.