Recombinant DAG1 protein (His tag)

Catalog Number	547290
Synonyms	Dystroglycan; Dystrophin-associated glycoprotein 1; Alpha-DG; Beta-DG
Species	Human
Expression System	E. coli
Accession	Q14118
Molecular Weight	Predictes a molecular mass of 12.14 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 13 kDa band.

Product Information

Sequence Region	654-749
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 654-749 aa (Q14118) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	This recombinant protein product features a 96-amino acid fragment (residues 654-749) of human Dystroglycan 1 (DAG1), a key component of the dystroglycan complex involved in extracellular matrix adhesion and cellular signaling. This fragment was computationally selected for optimal stability and solubility, making it ideal for structural studies, biochemical assays, and functional investigations of dystroglycan-mediated processes. Dystroglycan 1, encoded by the DAG1 gene, is a critical membrane-associated protein complex that undergoes proteolytic cleavage to yield alpha-dystroglycan (extracellular) and beta-dystroglycan (transmembrane) subunits. The full-length protein plays essential roles in laminin and basement membrane assembly, sarcolemmal stability, cell migration, epithelial polarization, and peripheral nerve myelination. Alpha-dystroglycan functions as an extracellular receptor for laminin-2 and agrin, while beta-dystroglycan serves as a transmembrane linker connecting the extracellular matrix to the cytoskeleton through interactions with dystrophin and utrophin. Notably, alpha-dystroglycan also serves as a receptor for several pathogens including Lassa virus, lymphocytic choriomeningitis virus, and Mycobacterium leprae. The protein localizes to the cell membrane, sarcolemma, and postsynaptic membranes, with beta-dystroglycan also showing nuclear localization under specific conditions. This fragment represents a stable, soluble region suitable for investigating the structural and functional properties of this biologically significant protein complex.