Recombinant ABCA2 protein (His tag)

Catalog Number	541194
Synonyms	ATP-binding cassette transporter 2; ATP-binding cassette 2
Species	Human
Expression System	E. coli
Accession	Q9BZC7
Molecular Weight	Predictes a molecular mass of 41.19 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 41 kDa band.

Product Information

Sequence Region	2012-2362
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 2012-2362 aa (Q9BZC7) 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	Recombinant Human ABCA2 Protein Fragment (residues 2012-2362) is a high-purity, functional fragment encompassing the ABC transporter 2 domain. This product is an essential tool for researchers investigating lipid transport, cholesterol homeostasis, and sphingolipid metabolism, providing targeted insights into the molecular mechanisms of ATP-binding cassette sub-family A member 2. The full-length ATP-binding cassette sub-family A member 2 (ABCA2) is a multi-pass membrane protein primarily localized to endosome and lysosome membranes in Homo sapiens. It functions as a probable lipid transporter that modulates cholesterol sequestration in late endosomes/lysosomes by regulating intracellular sphingolipid metabolism, thereby contributing to cholesterol homeostasis. ABCA2 may alter the transbilayer distribution of ceramide, favoring its retention in the outer leaflet of intraluminal membranes, which enhances acid ceramidase activity and facilitates ceramide deacylation to sphingosine, leading to free cholesterol sequestration in lysosomes. Additionally, ABCA2 regulates amyloid-beta production, either through signaling pathways that influence amyloid precursor protein transcription via sphingolipid metabolism modulation or via its role in gamma-secretase processing of APP, and it may play a role in myelin formation. This recombinant fragment, spanning residues 2012-2362 and fully containing the ABC transporter 2 domain, enables focused studies on these critical functional aspects.