Recombinant ABCA4 protein (His tag)

Catalog Number	544792
Synonyms	ATP-binding cassette sub-family A member 4; RIM ABC transporter; RIM proteinv; RmP; Retinal-specific ATP-binding cassette transporter; Stargardt disease protein
Species	Human
Expression System	E. coli
Accession	P78363
Molecular Weight	Predictes a molecular mass of 38.52 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 39 kDa band.

Product Information

Sequence Region	1398-1727
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 1398-1727 aa (P78363) 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	Introducing the recombinant fragment of Retinal-specific phospholipid-transporting ATPase ABCA4 (EC 7.6.2.1), a key human protein involved in retinal transport and homeostasis. This product features a stable, soluble 330-amino acid fragment (residues 1398-1727), optimized for structural and biochemical studies, offering researchers a reliable tool to investigate ABCA4's role in photoreceptor function and retinal health. The full-length ABCA4 protein is a flippase that catalyzes the ATP-dependent transport of retinal-phosphatidylethanolamine conjugates, such as N-retinylidene-phosphatidylethanolamine, from the lumen to the cytoplasmic leaflet of photoreceptor outer segment disk membranes. This activity is critical for clearing all-trans-retinal generated from photoexcitation and excess 11-cis-retinal, preventing the accumulation of toxic bisretinoids and maintaining retinal health. ABCA4 also exhibits ATPase activity in vitro and may display GTPase activity influenced by lipid environments and retinoid compounds. It localizes to membranes, including the endoplasmic reticulum, cytoplasmic vesicles, and photoreceptor outer segments, specifically at the rim and incisures of rod outer segment disks. Mutations in ABCA4 are linked to Stargardt disease, underscoring its importance in retinal function and disease research.