Recombinant DDHD2 protein (His tag)

Catalog Number	541891
Synonyms	TAG hydrolase; DDHD domain-containing protein 2; KIAA0725p; Phospholipase DDHD2; SAM, WWE and DDHD domain-containing protein 1; Triglyceride hydrolase DDHD2; Triglyceride lipase
Species	Human
Expression System	E. coli
Accession	O94830
Molecular Weight	Predictes a molecular mass of 48.28 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 52 kDa band.

Product Information

Sequence Region	37-442
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 37-442 aa (O94830) 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 Triacylglycerol hydrolase DDHD2 (TAG hydrolase) fragment (residues 37-442) is a high-purity, soluble protein designed for structural and biochemical studies. This 406-amino acid fragment retains key functional characteristics of the full-length enzyme, offering researchers a stable tool to investigate lipid metabolism and neuronal homeostasis mechanisms. DDHD2 is a crucial lipase enzyme in human lipid homeostasis, primarily functioning as a diacylglycerol (DAG) and triacylglycerol (TAG) hydrolase in the central nervous system. It works cooperatively with PNPLA2/ATGL in neuronal TAG catabolism, specifically hydrolyzing sn-1,3 DAG downstream of PNPLA2/ATGL activity. The enzyme also demonstrates phospholipase activity in vitro, preferentially hydrolyzing phosphatidic acids, phosphatidylcholine, and phosphatidylethanolamine. DDHD2 exhibits specific binding to various phosphoinositides including PI(3)P, PI(4)P, and PI(5)P. Subcellularly, it cycles between the cytosol and Golgi apparatus/endoplasmic reticulum-Golgi intermediate compartment, with its recruitment to these membranes regulated by phosphoinositide levels. This dynamic localization suggests roles in maintaining endoplasmic reticulum and Golgi structures, as well as regulating transport between the Golgi apparatus and plasma membrane.