Recombinant PLPL2 protein (His tag)

Catalog Number	540941
Synonyms	Adipose triglyceride lipase; Calcium-independent phospholipase A2-zeta; iPLA2-zeta; Desnutrin; Pigment epithelium-derived factor receptor; PEDF-R; TTS2.2; Transport-secretion protein 2; TTS2
Species	Human
Expression System	E. coli
Accession	Q96AD5
Molecular Weight	Predictes a molecular mass of 12.81 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 13 kDa band.

Product Information

Sequence Region	159-256
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, 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 159-256 aa (Q96AD5) 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 PNPLA2 (159-256) Fragment is a high-quality, soluble protein fragment derived from the patatin-like phospholipase domain-containing protein 2 (PNPLA2), also known as adipose triglyceride lipase. This 98-amino acid fragment is engineered for stability and solubility, making it an ideal tool for structural studies, biochemical assays, and functional investigations into lipid metabolism and energy homeostasis. The full-length PNPLA2 protein, encoded by the PNPLA2 gene in Homo sapiens, is a key enzyme in triglyceride hydrolysis, catalyzing the initial step in breaking down triglycerides within lipid droplets of adipocytes and other cells. It exhibits a strong preference for hydrolyzing long-chain fatty acid esters at the sn-2 position of the glycerol backbone and functions coordinately with other enzymes in the lipolytic cascade. Beyond its primary lipase activity (EC 3.1.1.3), PNPLA2 also possesses transacylase and phospholipase A2 (EC 3.1.1.4) activities, enabling roles in retinol metabolism, generation of diacylglycerols, and synthesis of fatty acid esters of hydroxy fatty acids (FAHFAs). It localizes primarily to lipid droplets and the cell membrane as a multi-pass membrane protein, regulating adiposome size and cellular lipid stores. PNPLA2 is critical for energy homeostasis, responding to starvation by enhancing triglyceride hydrolysis to supply free fatty acids for oxidation, and it acts antagonistically with proteins like LDAH to inhibit lipid droplet fusion.