Recombinant LIPS protein (His tag)

Catalog Number	547200
Synonyms	HSL; Monoacylglycerol lipase LIPE; Retinyl ester hydrolase; REH
Species	Human
Expression System	E. coli
Accession	Q05469
Molecular Weight	Predictes a molecular mass of 55.44 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 55 kDa band.

Product Information

Sequence Region	300-790
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 300-790 aa (Q05469) 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 Hormone-sensitive lipase (HSL) fragment (amino acids 300-790), a highly stable and soluble protein unit ideal for structural and biochemical studies. This fragment, derived from the human LIPE gene, retains key functional characteristics of the full-length enzyme, making it a valuable tool for investigating lipid metabolism and signaling pathways. Hormone-sensitive lipase (HSL) is a multifunctional enzyme with broad substrate specificity, catalyzing the hydrolysis of triacylglycerols, diacylglycerols, monoacylglycerols, cholesteryl esters, and retinyl esters. It demonstrates preferential hydrolysis of diacylglycerols over other lipid substrates and shows positional specificity toward different glycerol backbone positions. In adipose tissue and heart, HSL primarily hydrolyzes stored triglycerides to release free fatty acids, while in steroidogenic tissues, it converts cholesteryl esters to free cholesterol for steroid hormone production. The enzyme is localized to multiple cellular compartments including the cell membrane, caveolae, cytoplasm, and lipid droplets, with dynamic translocation between these locations regulated by factors such as insulin stimulation and AMPK-mediated phosphorylation. This strategic cellular distribution allows HSL to efficiently access its lipid substrates and participate in critical metabolic regulation.