# Recombinant PLIN5 protein (His tag)

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| **Catalog Number** | 537937 |
| **Synonyms** | Lipid storage droplet protein 5 |
| **Species** | Human |
| **Expression System** | E. coli |
| **Accession** | Q00G26 |
| **Molecular Weight** | Predictes a molecular mass of 17.60 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 19 kDa band. |

## Product Information

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| **Sequence Region** | 277-423 |
| **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 277-423 aa (Q00G26) were fused with 6His tag. |

## Storage & Handling

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| **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.<br>Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. |

## Description

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| **Description** | Recombinant Human Perilipin-5 (PLIN5) Fragment (aa 277-423) - A high-quality protein fragment ideal for studying lipid droplet dynamics and metabolic regulation. This 147-amino acid fragment represents a stable, soluble unit of Perilipin-5, optimized for structural and biochemical investigations into lipid storage and mobilization mechanisms.<br>Perilipin-5 (PLIN5) is a crucial lipid droplet-associated protein that maintains the delicate balance between lipogenesis and lipolysis while regulating fatty acid oxidation in oxidative tissues. This protein serves as a key scaffolding component that recruits mitochondria to lipid droplet surfaces and orchestrates lipid droplet homeostasis by controlling both triglyceride storage and fatty acid release for mitochondrial oxidation. Perilipin-5 functions as a molecular platform that coordinates three major lipolytic players: ABHD5, PNPLA2, and LIPE. It regulates triacylglycerol hydrolysis by sequestering PNPLA2 to lipid droplets, thereby reducing its hydrolase activity. Phosphorylation by PKA triggers lipolytic activation by promoting ABHD5 release and facilitating ABHD5-PNPLA2 interactions. The protein localizes primarily to lipid droplet surfaces but dynamically exchanges between lipid droplets, cytoplasm, and mitochondria, reflecting its multifaceted role in cellular lipid metabolism and energy homeostasis. |