Recombinant PDK2 protein (His tag)

Catalog Number	540329
Synonyms	acetyl-transferring; Pyruvate dehydrogenase kinase isoform 2; PDH kinase 2; PDKII
Species	Human
Expression System	E. coli
Accession	Q15119
Molecular Weight	Predictes a molecular mass of 47.81 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 48 kDa band.

Product Information

Sequence Region	1-407
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, 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 1-407 aa (Q15119) 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 PDK2 protein fragment (residues 1-407), encompassing the full Histidine kinase domain (135-364), is a high-quality tool for investigating the regulation of glucose and fatty acid metabolism, pyruvate dehydrogenase activity, and mitochondrial energy homeostasis. The full-length PDK2 protein, encoded by the PDK2 gene in Homo sapiens, is a mitochondrial matrix kinase that phosphorylates pyruvate dehydrogenase subunits PDHA1 and PDHA2, thereby inhibiting pyruvate dehydrogenase activity. This inhibition down-regulates aerobic respiration, reduces glucose utilization, promotes fat metabolism, and plays a critical role in metabolic adaptation to nutrient availability. PDK2 helps maintain normal blood glucose levels, blood pH, and prevents ketone body accumulation during starvation. It also mediates insulin responses, regulates cell proliferation, and contributes to apoptosis resistance under oxidative stress and p53/TP53-mediated apoptosis, making it a key player in cellular energy balance and metabolic health.