Recombinant ULK3 protein (His tag)

Catalog Number	540531
Synonyms	Unc-51-like kinase 3
Species	Human
Expression System	E. coli
Accession	Q6PHR2
Molecular Weight	Predictes a molecular mass of 55.10 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 58 kDa band.

Product Information

Sequence Region	1-472
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 1-472 aa (Q6PHR2) 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 Serine/threonine-protein kinase ULK3 (EC 2.7.11.1), encompassing the full-length protein (amino acids 1-472) with complete functional domains including the protein kinase domain and MIT domains. This high-quality recombinant protein serves as an essential tool for studying Sonic hedgehog signaling regulation and autophagy mechanisms. Serine/threonine-protein kinase ULK3 is a crucial regulatory enzyme that functions as a dual modulator of Sonic hedgehog (SHH) signaling and autophagy pathways. In the absence of SHH ligand, ULK3 acts as a negative regulator by interacting with SUFU, which inactivates its kinase activity and prevents phosphorylation of GLI proteins (GLI1, GLI2, and GLI3). Conversely, in the presence of SHH, ULK3 dissociates from SUFU, undergoes autophosphorylation, and mediates phosphorylation of GLI2, promoting its activation and nuclear translocation. Additionally, ULK3 plays a significant role in autophagy induction following cellular senescence. The protein localizes primarily to the cytoplasm and associates with pre-autophagosomal structures during cellular senescence, highlighting its importance in cellular quality control mechanisms and developmental signaling pathways.