Recombinant AAKB1 protein (His tag)

Catalog Number	541616
Synonyms	AMPK subunit beta-1; AMPKb
Species	Human
Expression System	E. coli
Accession	Q9Y478
Molecular Weight	Predictes a molecular mass of 23.78 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 24 kDa band.

Product Information

Sequence Region	75-270
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 75-270 aa (Q9Y478) 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 5'-AMP-activated protein kinase subunit beta-1 (AMPK subunit beta-1), fragment 75-270, is a high-purity protein designed for structural and biochemical studies. This fragment represents a stable, soluble region ideal for investigating AMPK's role as a cellular energy sensor and scaffold in metabolic regulation. The full-length 5'-AMP-activated protein kinase subunit beta-1 (encoded by PRKAB1) is a non-catalytic component of the AMPK complex, which functions as a critical energy sensor in cells. AMPK responds to decreased ATP levels by activating energy-producing pathways while inhibiting energy-consuming processes such as protein, carbohydrate, and lipid biosynthesis, as well as cell growth and proliferation. It achieves this through direct phosphorylation of metabolic enzymes and longer-term effects on transcription regulators. Additionally, AMPK contributes to cellular polarity by remodeling the actin cytoskeleton, likely via indirect activation of myosin. The beta subunit serves as a structural scaffold, bridging the alpha and gamma subunits to facilitate AMPK complex assembly and function. The subcellular location of this protein is not specified in the provided data.