Recombinant KIF7 protein (His tag)

Catalog Number	538141
Species	Human
Expression System	E. coli
Accession	Q2M1P5
Molecular Weight	Predictes a molecular mass of 41.01 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 42 kDa band.

Product Information

Sequence Region	1-359
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 1-359 aa (Q2M1P5) 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 KIF7 (1-359) is a high-purity protein fragment encompassing the complete kinesin motor domain of Kinesin-like protein KIF7. This carefully engineered fragment serves as an essential tool for studying hedgehog signaling regulation, microtubule dynamics, and ciliary function in developmental and cellular research. KIF7 is a critical regulator of hedgehog signaling pathways, functioning both as a negative and positive regulator of sonic hedgehog (Shh) and Indian hedgehog (Ihh) signaling downstream of SMO. The protein operates through both SUFU-dependent and -independent mechanisms and plays a key role in microtubular dynamics regulation. KIF7 is essential for proper organization of the ciliary tip and controls ciliary localization of SUFU-GLI2 complexes. It facilitates GLI3 localization to cilia in response to Shh signaling and regulates the processing of GLI3 transcription factor. The protein localizes specifically to the cilium tip and cytoplasm at the cilium basal body, highlighting its crucial role in ciliary function and cellular signaling pathways involved in epidermal differentiation and chondrocyte development.