Recombinant BUB1 protein (His tag)

Catalog Number	544116
Synonyms	hBUB1; BUB1A
Species	Human
Expression System	E. coli
Accession	O43683
Molecular Weight	Predictes a molecular mass of 42.22 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 42 kDa band.

Product Information

Sequence Region	734-1085
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, 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 734-1085 aa (O43683) 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 Mitotic checkpoint serine/threonine-protein kinase BUB1 (hBUB1) fragment (residues 734-1085) is a high-purity protein encompassing the complete kinase domain. This fragment serves as an essential tool for investigating spindle-assembly checkpoint signaling, kinetochore function, and mitotic regulation in cancer and cell biology research. BUB1 is a critical serine/threonine-protein kinase in human mitosis with two primary functions: spindle-assembly checkpoint signaling and correct chromosome alignment. It plays a key role in assembling checkpoint proteins at the kinetochore, being required for localization of CENPF, BUB1B, CENPE, MAD2L1, and PLK1. BUB1 regulates sister chromatid cohesion through SGO1 localization and promotes centromeric localization of TOP2A. The BUB1-BUB3 complex inhibits APC/C-CDC20 activity during spindle-checkpoint activation and phosphorylates MAD1L1. BUB1 mediates cell death in response to chromosome missegregation and suppresses spontaneous tumorigenesis. The protein localizes to the nucleus, specifically to chromosomes at centromeres and kinetochores, with levels peaking at G2/M phase and dropping dramatically after mitosis. Kinetochore localization occurs early in prophase and requires AURKB, KNL1, and INCENP for normal mitotic timing and checkpoint response to spindle damage.