Recombinant PRC1 protein (His tag)

Catalog Number	544114
Species	Human
Expression System	E. coli
Accession	O43663
Molecular Weight	Predictes a molecular mass of 57.17 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 68 kDa band.

Product Information

Sequence Region	1-464
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 1-464 aa (O43663) 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 Protein Regulator of Cytokinesis 1 (PRC1) Fragment (aa 1-464) is a high-quality, stable protein designed for advanced cell biology and cancer research. This fragment captures essential structural features of PRC1, a key regulator of cytokinesis, and is optimized for solubility and functionality in experimental applications such as microtubule binding studies and oncogenic pathway analysis. Protein Regulator of Cytokinesis 1 (PRC1), encoded by the PRC1 gene in Homo sapiens, is a critical protein involved in cell division. It functions by cross-linking antiparallel microtubules at an average distance of 35 nm, playing an essential role in the spatiotemporal formation of the midzone and ensuring successful cytokinesis. PRC1 is required for the localization of KIF14 to the central spindle and midbody, recruits PLK1 to the spindle, and stimulates PLK1 phosphorylation of RACGAP1 to facilitate ECT2 recruitment to the central spindle. Additionally, PRC1 acts as an oncogene, promoting bladder cancer cell proliferation, inhibiting apoptosis, and driving carcinogenic progression. Subcellularly, PRC1 is localized to the nucleus, cytoplasm, cytoskeleton (specifically spindle poles), midbody, and chromosomes, with dynamic redistribution during mitosis—colocalizing with proteins like KIF20B from prophase to telophase, highlighting its pivotal role in mitotic regulation and cancer biology.