Recombinant CND3 protein (His tag)

Catalog Number	545787
Synonyms	Chromosome-associated protein G; Condensin subunit CAP-G; hCAP-G; Melanoma antigen NY-MEL-3; Non-SMC condensin I complex subunit G; XCAP-G homolog
Species	Human
Expression System	E. coli
Accession	Q9BPX3
Molecular Weight	Predictes a molecular mass of 24.63 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 25 kDa band.

Product Information

Sequence Region	691-897
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 691-897 aa (Q9BPX3) 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	This recombinant protein represents amino acids 691-897 of Human Condensin complex subunit 3 (NCAPG), a 207-amino acid fragment specifically designed for structural and biochemical studies. The fragment was computationally selected to provide a stable, soluble unit ideal for investigating the molecular mechanisms of chromosome condensation and mitotic regulation. Condensin complex subunit 3 (NCAPG) serves as a regulatory subunit of the condensin complex, which is essential for converting interphase chromatin into mitotic-like condensed chromosomes. The complex introduces positive supercoils into relaxed DNA in the presence of type I topoisomerases and converts nicked DNA into positive knotted forms with type II topoisomerases. During the cell cycle, the majority of the condensin complex localizes to the cytoplasm in interphase, with a minor fraction associated with chromatin. However, during mitosis, phosphorylation by CDK1 triggers the complex's association with chromosome arms, driving chromosome condensation. The protein dissociates from chromosomes in late telophase, highlighting its dynamic regulation throughout cell division.