Recombinant LEMD2 protein (His tag)

Catalog Number	540778
Synonyms	hLEM2
Species	Human
Expression System	E. coli
Accession	Q8NC56
Molecular Weight	Predictes a molecular mass of 17.34 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 18 kDa band.

Product Information

Sequence Region	234-376
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, 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 234-376 aa (Q8NC56) 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 LEM domain-containing protein 2 (hLEM2) fragment (aa 234-376) is a high-purity, stable protein designed for structural and biochemical studies. This soluble fragment enables research into hLEM2's critical roles in nuclear envelope integrity, chromatin organization, and ESCRT-mediated nuclear reassembly, providing a reliable tool for investigating nuclear dynamics and cellular signaling pathways. LEM domain-containing protein 2 (hLEM2), encoded by the LEMD2 gene, is an inner nuclear membrane protein essential for nuclear structure organization and nuclear envelope integrity. It functions as a transmembrane adapter for the endosomal sorting complexes required for transport (ESCRT), facilitating ESCRT-mediated nuclear envelope reformation after mitosis by recruiting CHMP7 and downstream ESCRT-III proteins. During nuclear reassembly, hLEM2 condenses around microtubule spindles and coassembles with CHMP7 to form a seal at membrane-chromatin-spindle junctions, enabling early nuclear sealing. It also organizes heterochromatin at the nuclear envelope and maintains nuclear organization under mechanical stress. hLEM2 is required for embryonic development, regulation of MAPK and AKT signaling pathways, myoblast differentiation, and cardiac homeostasis. Localized to the inner nuclear membrane during interphase, it redistributes during mitosis to the reforming nuclear envelope and spindle microtubules, highlighting its dynamic role in nuclear architecture and cell division.