Recombinant MSX2 protein (His tag)

Catalog Number	546936
Synonyms	Homeobox protein Hox-8
Species	Human
Expression System	E. coli
Accession	P35548
Molecular Weight	Predictes a molecular mass of 10.40 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 10 kDa band.

Product Information

Sequence Region	141-214
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 141-214 aa (P35548) 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 is a stable and soluble fragment (residues 141-214) of the human Homeobox protein MSX-2 (Hox-8), a key transcriptional regulator in bone development. The fragment is optimized for structural and biochemical studies, offering researchers a reliable tool to investigate MSX-2's molecular mechanisms. Homeobox protein MSX-2, encoded by the MSX2 gene in Homo sapiens, functions as a transcriptional regulator critical for bone development. It represses the ALPL promoter activity and counteracts the stimulatory effect of DLX5 on ALPL expression during osteoblast differentiation. MSX-2 also plays a probable morphogenetic role, potentially in limb-pattern formation, and in osteoblasts, it suppresses transcription driven by the osteocalcin FGF response element (OCFRE). The protein binds to the homeodomain-response element of the ALPL promoter and is localized to the nucleus, underscoring its role in gene regulation. This fragment represents a selected region designed for experimental analysis, based on structural predictions to ensure stability and solubility.