Recombinant MSX1 protein (His tag)

Catalog Number	537655
Synonyms	Homeobox protein Hox-7; Msh homeobox 1-like protein
Species	Human
Expression System	E. coli
Accession	P28360
Molecular Weight	Predictes a molecular mass of 13.16 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 13 kDa band.

Product Information

Sequence Region	145-242
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 145-242 aa (P28360) 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	Introducing the recombinant human Homeobox protein MSX-1 fragment (amino acids 145-242), a stable and soluble protein unit ideal for structural and biochemical studies. This fragment, derived from the MSX1 gene, represents a key region of the transcriptional repressor MSX-1, enabling researchers to explore its functional mechanisms in developmental processes. Homeobox protein MSX-1 (Hox-7) is a transcriptional repressor encoded by the MSX1 gene in humans, primarily localized in the nucleus. It plays critical roles in regulating gene expression during embryonic development, including tooth morphogenesis, palatal shelf fusion, mandibular formation, and bone development in the skull, middle ear, and nasal regions. MSX-1 binds to specific DNA sequences, such as 5'-C/GTAAT-3', to repress target genes like CGA/alpha-GSU and GNRHR, and it interacts with proteins like PIAS1 to modulate myoblast differentiation and Wnt signaling pathways. Its function is stage-specific, promoting proliferation in early developmental stages while inhibiting premature differentiation in later stages, ensuring proper tissue formation and homeostasis.