

Datasheet for ABIN7562857
MSX1 Protein (AA 1-303) (His tag)



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Overview

Quantity:	1 mg
Target:	MSX1
Protein Characteristics:	AA 1-303
Origin:	Mouse
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This MSX1 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Purpose:	Custom-made recombinat Msx1 Protein expressed in mammalien cells.
Sequence:	<p>MAPAAAMTSL PLGVKVEDSA FAKPAGGGVG QAPGAAAATA TAMGTDEEGA KPKVPASLLP FSVEALMADH RKP GAKESVL VASEGAQAAG GSVQHLGTRP GSLGAPDAPS SPRPLGHFSV GGLLKLPEDA LVKAESPEKL DRTPWMQSPR FSPPPARRLS PPACTLRKHK TNRKPRTPF TAQLLALERK FRQKQYLSIA ERAEFSSSLs LTETQVKIWF QNRRAKAKRL QEAELEKMKM AAKPMLPPAA FGLSFPLGGP AAVAAAAGAS LYSASGPFQR AALPVAPVGL YTAHVGYSMY HLT</p> <p>Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.</p>
Characteristics:	<p>Key Benefits:</p> <ul style="list-style-type: none">• Made to order protein - from design to production - by highly experienced protein experts.

Product Details

- Protein expressed in mammalian cells and purified in one-step affinity chromatography
- The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein.

If you are not interested in a full length protein, please contact us for individual protein fragments.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Purity:	> 90 % as determined by Bis-Tris Page, Western Blot
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Grade:	custom-made
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Target Details

Target:	MSX1
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Alternative Name:	Msx1 (MSX1 Products)
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Background:	Homeobox protein MSX-1 (Homeobox protein Hox-7) (Hox-7.1) (Msh homeobox 1-like protein),FUNCTION: Acts as a transcriptional repressor (PubMed:7823952, PubMed:22629437, PubMed:23371388). Capable of transcription autoinactivation (PubMed:10215616). Binds to the consensus sequence 5'-C/GTAAT-3' in downstream activin regulatory elements (DARE) in the gene promoter, thereby repressing the transcription of CGA/alpha-GSU and GNRHR (PubMed:23371388). Represses transcription of myoblast differentiation factors (PubMed:16600910, PubMed:22629437). Binds to core enhancer regions in target gene promoters of myoblast differentiation factors with binding specificity facilitated by interaction with PIAS1 (PubMed:16600910). Recruits histone H3 methyltransferases such as EHMT2/G9a to gene promoter regions which leads to inhibition of myoblast differentiation via transcriptional repression of differentiation factors (PubMed:22629437). Regulates, in a stage-specific manner, a developmental program of gene expression in the fetal tooth bud that controls odontoblast differentiation and proliferation of dental mesenchymal cells (PubMed:7914451, PubMed:8898217, PubMed:24028588, PubMed:27713059, PubMed:29148101). At the bud stage, required for mesenchymal molar tooth bud development via facilitating reciprocal
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Target Details

signaling between dental epithelial and mesenchymal cells (PubMed:8898217). May also regulate expression of Wnt antagonists such as DKK2 and SFPR2 in the developing tooth mesenchyme (PubMed:27713059). Required for BMP4 expression in dental mesenchyme cells (PubMed:8898217). Also, in response to BMP4, required for BMP4 expression in neighboring dental epithelial cells (PubMed:8898217). Required for maximal FGF4-induced expression of SDC1 in dental mesenchyme cells (PubMed:8898217). Also in response to SDC1, required for SDC1 expression in neighboring dental epithelial cells (PubMed:8898217). At the early bell stage, acts to drive proliferation of dental mesenchyme cells, however during the late bell stage acts as an homeostatic regulator of the cell cycle (PubMed:24028588, PubMed:29148101). Regulates proliferation and inhibits premature mesenchymal odontogenesis during the bell stage via inhibition of the Wnt signaling component CTNNB1 and subsequent repression of the odontoblast differentiation factors BMP2, BMP4, LEF1, ALPL and BGLAP/OCN (PubMed:24028588, PubMed:29148101). Additionally, required for correct development and fusion of the palatal shelves and embryonic mandibular formation (PubMed:7914451). Plays a role in embryonic bone formation of the middle ear, skull and nasal bones (PubMed:7914451). Required for correct formation and thickness of the nail plate (PubMed:11369996). May play a role in limb-pattern formation (PubMed:1677742). {ECO:0000250|UniProtKB:P28360, ECO:0000269|PubMed:10215616, ECO:0000269|PubMed:11369996, ECO:0000269|PubMed:16600910, ECO:0000269|PubMed:1677742, ECO:0000269|PubMed:22629437, ECO:0000269|PubMed:23371388, ECO:0000269|PubMed:24028588, ECO:0000269|PubMed:27713059, ECO:0000269|PubMed:29148101, ECO:0000269|PubMed:7823952, ECO:0000269|PubMed:7914451, ECO:0000269|PubMed:8898217}.

Molecular Weight: 31.7 kDa

UniProt: [P13297](#)

Pathways: [Regulation of Muscle Cell Differentiation](#), [Positive Regulation of Response to DNA Damage Stimulus](#)

Application Details

Application Notes: In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: The buffer composition is at the discretion of the manufacturer.

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: 12 months