

**MSX1 Antibody (Center) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP19261c****Specification**

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**MSX1 Antibody (Center) Blocking Peptide - Product Information**Primary Accession [P28360](#)**MSX1 Antibody (Center) Blocking Peptide - Additional Information****Gene ID** 4487**Other Names**

Homeobox protein MSX-1, Homeobox protein Hox-7, Msh homeobox 1-like protein, MSX1, HOX7

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**MSX1 Antibody (Center) Blocking Peptide - Protein Information****Name** MSX1 ([HGNC:7391](#))**Function**

Acts as a transcriptional repressor (By similarity). Capable of transcription autoinactivation (By similarity). 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 (By similarity). Represses transcription of myoblast differentiation factors (By similarity). Binds to core enhancer regions in target gene promoters of myoblast differentiation factors with binding specificity facilitated by interaction with PIAS1 (By similarity). 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 (By similarity). At the bud stage, required for mesenchymal molar tooth bud development via facilitating reciprocal signaling between dental epithelial and mesenchymal cells (By similarity). May also regulate expression of Wnt antagonists such as DKK2 and SFPR2 in the developing tooth mesenchyme (By similarity). Required for BMP4 expression in dental mesenchyme cells (By similarity). Also, in response to BMP4, required for BMP4 expression in neighboring dental epithelial cells (By similarity). Required for maximal FGF4-induced expression of SDC1 in dental mesenchyme cells (By similarity). Also in response to SDC1, required for SDC1 expression in neighboring dental epithelial cells (By similarity). 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 (By similarity). 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 (By similarity). Additionally, required for correct development and fusion of the palatal shelves and embryonic mandibular formation (By similarity). Plays a role in embryonic bone formation of the middle ear, skull and nasal bones (By similarity). Required for correct formation and thickness of the nail plate (By similarity). May play a role in limb-pattern formation (By similarity).

**Cellular Location**

Nucleus {ECO:0000250|UniProtKB:P13297}. Note=Interaction with PIAS1 is required for localization to the nuclear periphery (By similarity). {ECO:0000250|UniProtKB:P13297}

**MSX1 Antibody (Center) Blocking Peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

**MSX1 Antibody (Center) Blocking Peptide - Images****MSX1 Antibody (Center) Blocking Peptide - Background**

This gene encodes a member of the muscle segment homeobox gene family. The encoded protein functions as a transcriptional repressor during embryogenesis through interactions with components of the core transcription complex and other homeoproteins. It may also have roles in limb-pattern formation, craniofacial development, particularly odontogenesis, and tumor growth inhibition. Mutations in this gene, which was once known as homeobox 7, have been associated with nonsyndromic cleft lip with or without cleft palate 5, Witkop syndrome, Wolf-Hirschhorn syndrome, and autosomal dominant hypodontia.

**MSX1 Antibody (Center) Blocking Peptide - References**

Sliwinski, T., et al. Cancer Epidemiol 34(5):652-655(2010) Nikopencius, T., et al. Birth Defects Res. Part A Clin. Mol. Teratol. 88(9):748-756(2010) Suazo, J., et al. Am. J. Med. Genet. A 152A (8), 2011-2016 (2010) :Doi, T., et al. J. Pediatr. Surg. 45(6):1187-1191(2010) Jugessur, A., et al. PLoS ONE 5 (7), E11493 (2010) :