

HOXA1 Rabbit pAb

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Catalog # AP56670

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P49639
Predicted	Rat, Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	36660
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human HOXA1
Epitope Specificity	151-250/335
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Nucleus.
DISEASE	Defects in HOXA1 are the cause of Athabaskan brainstem dysgenesis syndrome (ABDS) [MIM:601536]; also known as Narvajo brainstem syndrome. This syndrome is characterized by horizontal gaze palsy, sensorineural deafness, central hypoventilation, and developmental delay. Some patients had swallowing dysfunction, vocal cord paralysis, facial paresis, seizures, and cardiac outflow tract anomalies. Defects in HOXA1 are the cause of Bosley-Salih-Alorainy syndrome (BSAS) [MIM:601536]. Affected individuals show horizontal gaze abnormalities, deafness, facial weakness, vascular malformations of the internal carotid arteries and cardiac outflow tract. Some patients manifest mental retardation and autism spectrum disorder. In contrast to individuals with ABSD, central hypoventilation is not observed in individuals with BSAS.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Hox genes play a fundamental role in the development of the vertebrate central nervous system, heart, axial skeleton, limbs, gut, urogenital tract and external genitalia. The homeobox gene HoxA1 is transcriptionally regulated by retinoic acid (RA) and encodes a transcription factor which has been shown to play important roles in cell differentiation and embryogenesis. HoxA1 is also expressed in cancers, such as mammary tumors, though it is not expressed in normal gland or in precancerous mammary tissues. At embryonic stages, HoxA2 is expressed in the mesenchyme and epithelial cells of the palate, however its expression is restricted to the tips of the growing palatal shelves. HoxA2 protein is predominantly expressed in the nuclei of cells in the ventral mantle region of the developing embryo. In the developing and adult mouse spinal cord, HoxA2 protein may contribute to dorsal-ventral patterning and/or to the specification of neuronal phenotype. HoxA7 functions as a potent transcriptional repressor and its action as such requires several domains, including both activator and repressor regions. HoxA7 is expressed in the fetal liver, lung, skeletal muscle, kidney, pancreas and placenta.

Additional Information

Gene ID	3198
Other Names	Homeobox protein Hox-A1, Homeobox protein Hox-1F, HOXA1, HOX1F
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	HOXA1
Synonyms	HOX1F
Function	Sequence-specific transcription factor (By similarity). Regulates multiple developmental processes including brainstem, inner and outer ear, abducens nerve and cardiovascular development and morphogenesis as well as cognition and behavior (PubMed: 16155570). Also part of a developmental regulatory system that provides cells with specific positional identities on the anterior-posterior axis. Acts on the anterior body structures. Seems to act in the maintenance and/or generation of hindbrain segments (By similarity). Activates transcription in the presence of PBX1A and PKNX1 (By similarity).
Cellular Location	Nucleus {ECO:0000250 UniProtKB:P09022}.

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