

Rabbit Polyclonal Anti-HAND2 antibody

Catalog Number: HAND2-201AP

Lot Number:

General Information

Product	HAND2 Antibody
Description	heart- and neural crest derivatives-expressed protein 2 Antibody Affinity Purified
Accession #	Uniprot: P61295 NCBI: NP_073187
Verified Applications	ELISA, IHC, IP, WB
Species Cross Reactivity	Human, Monkey, Mouse, Rat
Host	Rabbit
Immunogen	Synthetic peptide taken within amino acid region 1-100 on Human HAND2 protein.
Alternative Nomenclature	AI225906 antibody, AI661148 antibody, autonomic nervous system and neural crest derivatives-expressed protein 2 antibody, Basic helix loop helix transcription factor HAND2 antibody, Class A basic helix-loop-helix protein 26 antibody, Deciduum antibody, Deciduum heart autonomic nervous system and neural crest derivatives expressed protein 2 antibody, FLJ16260 antibody, Heart- and neural crest derivatives-expressed protein 2 antibody, MGC125303 antibody, MGC125304 antibody, Thing2 antibody

Physical Properties

Quantity	100 µg
Volume	200 µl
Form	Affinity Purified Immunoglobulins
Immunoglobulin & Concentration	0.5-0.6 mg/ml IgG in antibody stabilization buffer
Storage	Store at -20°C for long term storage.

Recommended Dilutions

DOT Blot	1:10,000
Immunohistochemistry	1:200
Immunohistochemistry	1:100
ELISA	1:10,000
Western Blot	1:500

Related Products

Catalog

FITC-Conjugated

Antigenic Blocking Peptide

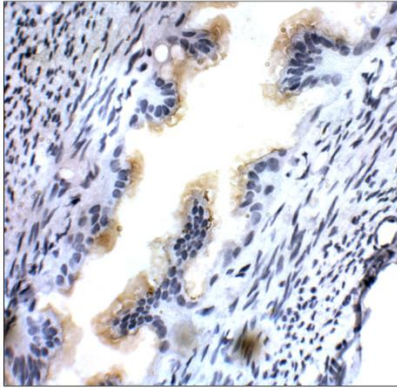
Western Blot Positive Control

HAND2-FITC

P-HAND2

PC-HAND2

Application Verification:



Rat Ovary- HAND2

Primary Antibody: HAND2-201AP; 1:100 dilution in IHC Blocking Buffer.

DAB (brown) staining and Hematoxylin QS (blue) counterstain. 40X magnification on Leica DM4000. FFPE section.

Dilutions are for reference only. Applications not listed above are not necessarily precluded from working with this antibody. Investigators intending to use an application that has not been verified can request a complimentary sample.

Overview:

Hand proteins are evolutionary conserved basic helix-loop-helix (bHLH) transcription factors implicated in development of neural crest-derived tissues, heart and limbs. There are two isoforms of Hand protein expressed in embryonic tissue (Hand1 and Hand2). The basic helix-loop-helix (bHLH) transcription factors Hand1 and Hand2 are essential for embryonic development. Hand1 is expressed in the ventral zone of the bronchial arches, while the Hand2 protein is expressed ventrolaterally across two-thirds of the mandibular arch (1). HAND2 plays an essential role in cardiac morphogenesis. The prevalence of HAND2 mutations in congenital heart disease (CHD) and the correlation between the HAND2 genotype and CHD phenotype have been shown. Although highly evolutionarily conserved genes, HAND cardiac expression patterns differ across species (3). Heart formation requires the fusion of bilateral cardiomyocyte populations as they move towards the embryonic midline. The Hand2 transcription factor is essential for cardiac fusion, however, the effector genes that execute this function of Hand2 are unknown.

HAND2 is located on chromosome 4q33 in a head-to-head orientation with DEIN, a novel gene with stage specific expression in primary neuroblastoma (NB). HAND2 and DEIN represent a gene pair that is closely linked by a bidirectional promoter in an evolutionary highly conserved manner. Expression of both genes in neuroblastoma is co-regulated by the asymmetrical activity of this promoter and modulated by the activity of two cis-regulatory elements acting as weak repressors (2). Hand2 is developmentally regulated and is intranuclear in precursors but cytoplasmic in neurons. Hand2 is a 217 amino acid (26.5kDa) protein coded by Hand2 gene located on chromosome 16p11. Hand1 and 2 are expressed in adult heart and are regulated by cardiac hypertrophy (3).

The Hand2 antibodies were generated using synthetic peptide derived from the from the N-terminal region of the Hand2 protein. The Hand2-specific antibodies are affinity purified over immobilized antigen based affinity chromatography, and the purified immunoglobulins are stabilized in antibody stabilization buffer. Antigenic blocking peptides and western blot positive control for Hand2 in ready-to-use buffer for Western blotting are available. FabGennix will conjugate antibodies with fluorescent probes or secondary enzymes upon request at a reasonable cost. Antibodies for a number of Transcription factors and RNA binding proteins are available, for a complete listing visit www.FabGennix.com.

References:

1. Voth H, Oberthuer A, Simon T, Kahlert Y, Berthold F, and Fischer M. Co-regulated expression of HAND2 and DEIN by a bidirectional promoter with asymmetrical activity in neuroblastoma. *BMC Mol Biol.* 2009 Apr 6;10:28.
2. D'Autréaux F, Morikawa Y, Cserjesi P, and Gershon MD. Hand2 is necessary for terminal differentiation of enteric neurons from crest-derived precursors but not for their migration into the gut or for formation of glia. *Dev.* 134:2237-49.
3. Thattaiyath BD, Livi CB, Steinhilper ME, Toney GM, Firulli AB. HAND1 and HAND2 are expressed in the adult-rodent heart and are modulated during cardiac hypertrophy. *Biochem Biophys Res Commun.* 2002 Oct 4;297(4):870-5.

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