PRODUCT INFORMATION

Product name：HAND1 antibody

Product type： Primary antibodies

Description： Rabbit polyclonal to HAND1

Immunogen：3 synthetic peptides (human) conjugated to KLH

Reacts with： Hu, Ms

Tested applications： ELISA, WB and IF

GENE INFORMATION

Gene Symbol：HAND1

Gene Name：heart and neural crest derivatives expressed 1

Ensembl ID：ENSG00000113196

Entrez GeneID：9421

GenBank Accession number：AF061756

Omim ID：602406

Swiss-Prot：O96004

Molecular weight of HAND1： 23.6kDa

Function：Plays an essential role in early trophoblast differentiation and in cardiac morphogenesis. In the adult, could be required for ongoing expression of cardiac-specific genes. Binds the DNA sequence 5'-NRTCTG-3' (non-canonical E-box).

Expected subcellular localization： Nucleus

Expected tissue specificity： Heart

Summary：The protein encoded by this gene belongs to the basic helix-loop-helix family of transcription factors. This gene product is one of two closely related family members, the HAND proteins, which are asymmetrically expressed in the developing ventricular chambers and play an essential role in cardiac morphogenesis. Working in a complementary fashion, they function in the formation of the right ventricle and aortic arch arteries, implicating them as mediators of congenital heart disease. In addition, it has been suggested that this transcription factor may be required for early trophoblast differentiation. [provided by RefSeq]

APPLICATION NOTE

Recommended dilution：

- **ELISA: Antibody specificity was verified by direct ELISA against the 3 immunogen peptides. A titer of 1/5000 has been determined. Appropriate specificity controls were run.**
- **WB: 1/2500.**
- **IF: 1/500.**

Optimal dilutions/concentration should be determined by the end user.

Raised in： Rabbit

Clonality： Polyclonal

Isotype： IgG

Purity： Purified antibody

Storage buffer：0.5 X PBS, containing a final concentration of 50% Glycerol, 0.1% BSA and 0.01% Thimerosal.

Form： Liquid

Storage instruction： Store at -20°C or -80°C. Avoid repeated freeze / thaw cycles

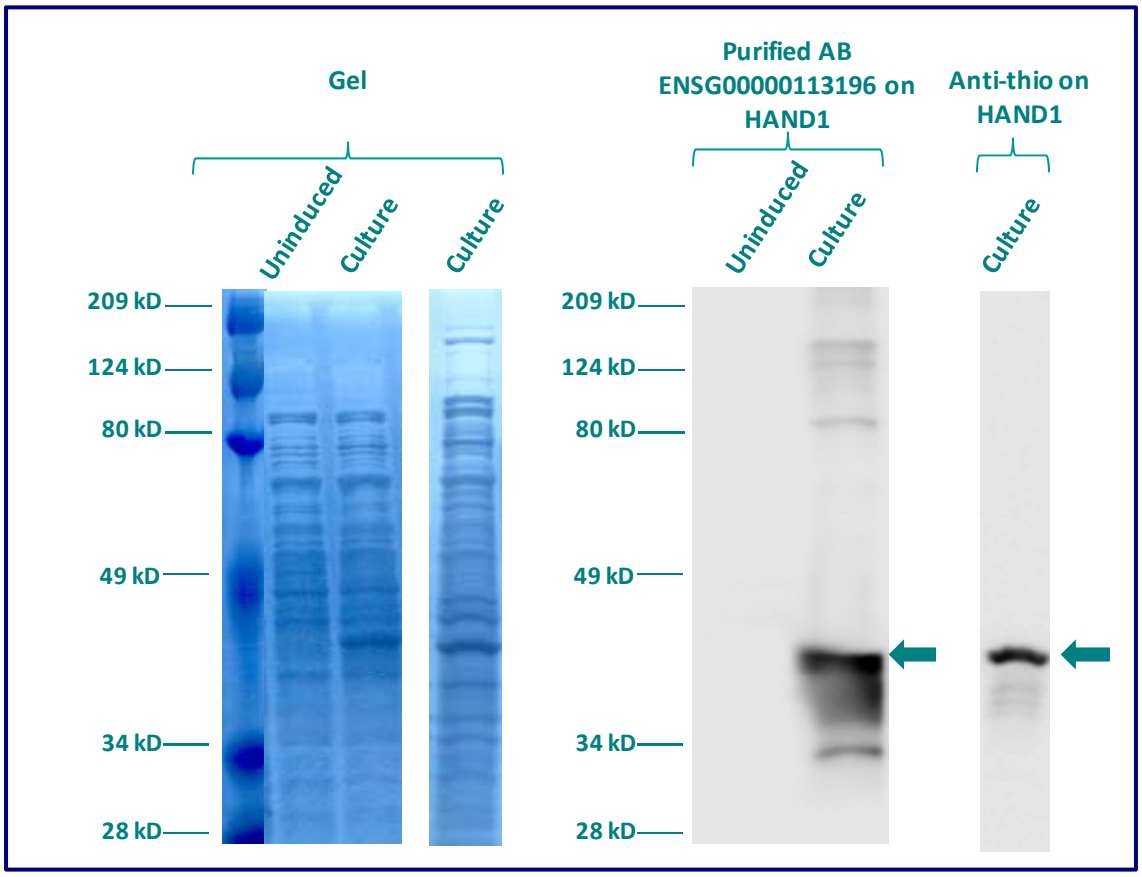
WESTERN BLOT ON RECOMBINANT PROTEIN

The purified antibody ENSG00000113196 has been tested at 1/5000 on uninduced (negative control) and induced culture of E.coli (one shot Top10 competent cells).

An anti-thio (positive control) has been tested at 1/5000 on uninduced (negative control) and induced culture of E.coli (one shot Top10 competent cells) as a positive control.

Plasmid name： pBAD-DEST49.

Molecular weight of HAND1：37.6kDa (23.6kDa + another 14kDa for the tag).



Gel concentration: 10%

Blocking: in 5% non-fat milk-PBST solution

1st Antibody: The antibodies are diluted in blocking buffer.

- **Dilute the purified antibody ENSG00000113196 at 1:2500**
- **Dilute the anti-thio at 1:5000**

60 minutes of incubation

2nd Antibody: The antibody is diluted in blocking buffer.

- **Dilute the anti-Rabbit IgG HRP conjugated at 1/10000**

60 minutes of incubation

IMMUNOFLUORESCENCE ANALYSIS

Immunofluorescence analysis of Heart- and neural crest derivatives-expressed protein 1 (HAND1) expression in 5 cells lines (HELA, 293T/17, Capan-2, SAOS2, SH-SY5Y). The purified Antibody ENSG00000113196 has been tested at 1/5000.

Red staining : cytoskeleton (microtubules/α-tubuline)

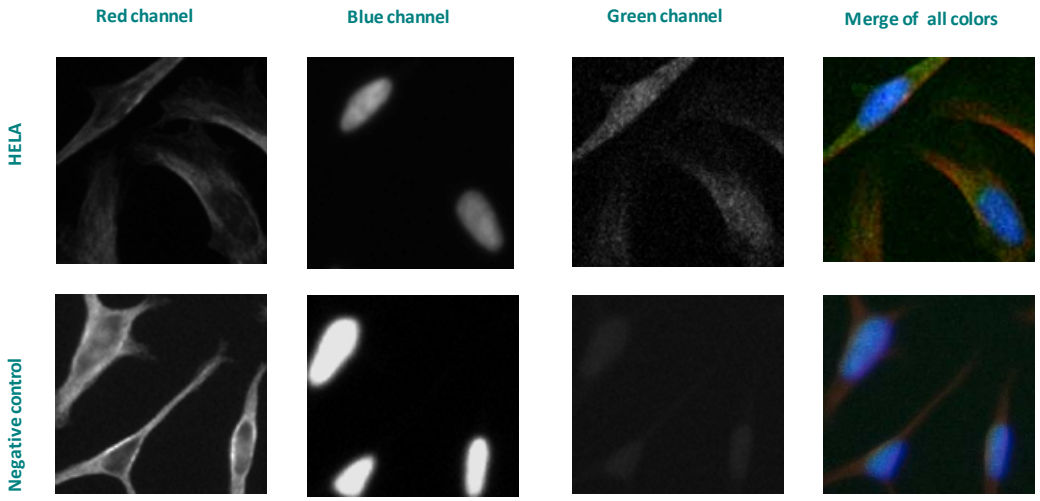
Blue staining : nucleus (Hoechst)

Green staining : anti- HAND1 antibody (purified)

Expected subcellular location : Nucleus, nucleoplasm and nucleolus.

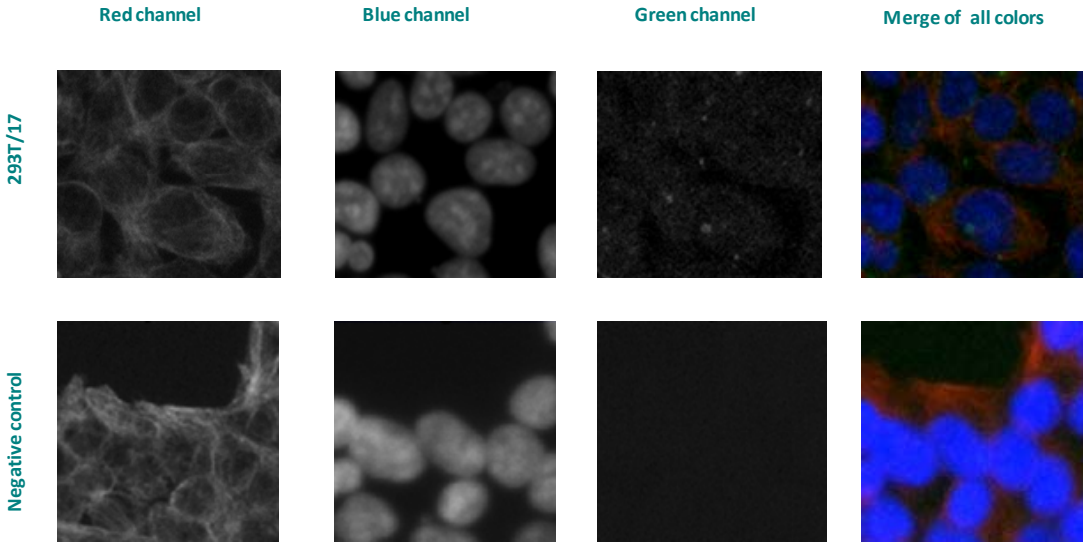
Note: Interaction with MDFIC sequesters it into the nucleolus, preventing the transcription factor activity. Phosphorylation by PLK4 disrupts the interaction with MDFIC and releases it from the nucleolus, leading to transcription factor activity.

Expected tissue specificity : Heart



The different images obtained by double labeling immunofluorescence microscopy of HELA (cervix adenocarcinoma) cell line shows that HAND1 is a cytoplasmic protein detected in this cellular tissue .

Pictures are compared with a negative control from the same cell line without primary Ab.



The merge of staining obtained by double labeling immunofluorescence microscopy of 293T/17 (kidney embrionic) cell line shows that HAND1 is a nuclear and cytoplasmic protein detected in this cellular tissue .

Pictures are compared with a negative control from the same cell line without primary Ab.

Remaining cell lines tested gave a positive result with a nuclear and cytoplasmic distribution.