

eHAND (B-4): sc-514816



The Power to Question

BACKGROUND

dHAND (for deciduum, heart, autonomic nervous system and neural crest derivatives; also designated HAND2) and eHAND (also designated HAND1, HXT or Thing1) are members of a subclass of basic-helix-loop-helix transcription factors that are involved in cardiac development. dHAND and eHAND are expressed in the heart after cardiac looping, and they participate in left-right cardiac asymmetry. dHAND is expressed predominantly on the right side of the looped heart tube and in the pulmonary ventricle, where it activates transcription of various genes, including Ufd1 (for ubiquitin fusion degradation) and Cdc45. In addition, dHAND is expressed in sympathetic neurons and chromaffin cells throughout embryonic and fetal development and mediates neural crest development. eHAND expression is primarily observed on the left side and in the systemic ventricle, suggesting that these proteins are involved in the development of segments of the heart tube, which give rise to specific heart chambers during cardiogenesis.

REFERENCES

1. Srivastava, D., et al. 1995. A subclass of bHLH proteins required for cardiac morphogenesis. *Science* 270: 1995-1999.
2. Srivastava, D., et al. 1997. Regulation of cardiac mesodermal and neural crest development by the bHLH transcription factor, dHAND. *Nat. Genet.* 16: 154-160.
3. Knofler, M., et al. 1998. Molecular cloning of the human Hand1 gene/cDNA and its tissue-restricted expression in cytotrophoblastic cells and heart. *Gene* 224: 77-86.
4. Thomas, T., et al. 1998. A signaling cascade involving endothelin-1, dHAND and msx1 regulates development of neural-crest-derived branchial arch mesenchyme. *Development* 125: 3005-3014.
5. Thomas, T., et al. 1998. The bHLH factors, dHAND and eHAND, specify pulmonary and systemic cardiac ventricles independent of left-right sidedness. *Dev. Biol.* 196: 228-236.
6. Srivastava, D. 1999. HAND proteins: molecular mediators of cardiac development and congenital heart disease. *Trends Cardiovasc. Med.* 9: 11-18.

CHROMOSOMAL LOCATION

Genetic locus: HAND1 (human) mapping to 5q33.2; Hand1 (mouse) mapping to 11 B1.3.

SOURCE

eHAND (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 16-39 near the N-terminus of eHAND of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-514816 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-514816 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

eHAND (B-4) is recommended for detection of eHAND of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for eHAND siRNA (h): sc-37922, eHAND siRNA (m): sc-37923, eHAND shRNA Plasmid (h): sc-37922-SH, eHAND shRNA Plasmid (m): sc-37923-SH, eHAND shRNA (h) Lentiviral Particles: sc-37922-V and eHAND shRNA (m) Lentiviral Particles: sc-37923-V.

eHAND (B-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

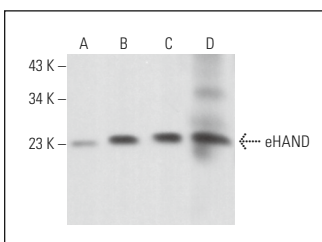
Molecular Weight of eHAND: 27 kDa.

Positive Controls: eHAND (h): 293T Lysate: sc-110104, BYDP whole cell lysate: sc-364368 or NIH/3T3 whole cell lysate: sc-2210.

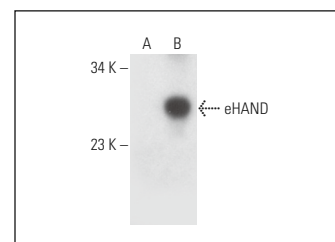
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



eHAND (B-4): sc-514816. Western blot analysis of eHAND expression in HeLa (A), BYDP (B) and NIH/3T3 (C) whole cell lysates and rat placenta tissue extract (D).



eHAND (B-4): sc-514816. Western blot analysis of eHAND expression in non-transfected: sc-117752 (A) and human eHAND transfected: sc-110104 (B) 293T whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.