SANTA CRUZ BIOTECHNOLOGY, INC.

dHAND (HAND2C1a): sc-130629

SANTA CRUZ BIOTECHNOLOGY

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 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 chromafin 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.
7. Yamagishi, H., et al. 1999. A molecular pathway revealing a genetic basis for human cardiac and craniofacial defects. Science 283: 1158-1161.

CHROMOSOMAL LOCATION

Genetic locus: HAND2 (human) mapping to 4q34.1.

SOURCE

dHAND (HAND2C1a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to a region near the C-terminus of dHAND of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml PBS with < 0.1% sodium azide and 1.0% gelatin.

APPLICATIONS

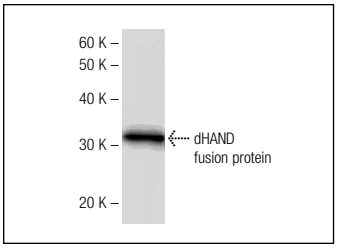
dHAND (HAND2C1a) is recommended for detection of dHAND of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for dHAND siRNA (h): sc-37920, dHAND shRNA Plasmid (h): sc-37920-SH and dHAND shRNA (h) Lentiviral Particles: sc-37920-V.

Molecular Weight of dHAND: 27 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or ES-2 cell lysate: sc-24674.

DATA



dHAND (HAND2C1a): sc-130629. Western blot analysis of human recombinant dHAND fusion protein.

SELECT PRODUCT CITATIONS

1. Fakhouri, W.D., et al. 2017. Intercellular genetic interaction between Irf6 and Twist1 during craniofacial development. Sci. Rep. 7: 7129.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.