SANTA CRUZ BIOTECHNOLOGY, INC.

eHAND (h): 293T Lysate: sc-110104

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 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.
8. Togi, K., et al. 2004. Role of Hand1/eHAND in the dorso-ventral patterning and interventricular septum formation in the embryonic heart. Mol. Cell. Biol. 24: 4627-4635.
9. McFadden, D.G., et al. 2005. The Hand1 and Hand2 transcription factors regulate expansion of the embryonic cardiac ventricles in a gene dosage-dependent manner. Development 132: 189-201.

CHROMOSOMAL LOCATION

Genetic locus: HAND1 (human) mapping to 5q33.2.

PRODUCT

eHAND (h): 293T Lysate represents a lysate of human eHAND transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

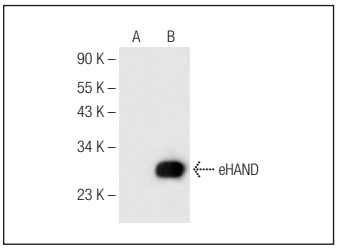
APPLICATIONS

eHAND (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive eHAND antibodies. Recommended use: 10-20 µl per lane.

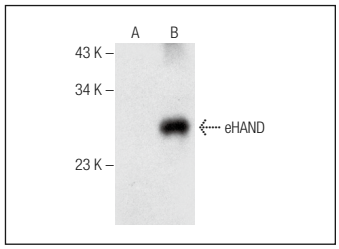
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

eHAND (E-10): sc-374296 is recommended as a positive control antibody for Western Blot analysis of enhanced human eHAND expression in eHAND transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



eHAND (E-10): sc-374296. Western blot analysis of eHAND expression in non-transfected: sc-117752 (**A**) and human eHAND transfected: sc-110104 (**B**) 293T whole cell lysates.



eHAND (F-7): sc-390376. 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 -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.