SANTA CRUZ BIOTECHNOLOGY, INC.

eHAND (F-7): sc-390376

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.

CHROMOSOMAL LOCATION

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

SOURCE

eHAND (F-7) is a mouse monoclonal antibody raised against amino acids 1-45 of eHAND of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-390376 X, 200 µg/0.1 ml.

eHAND (F-7) is available conjugated to agarose (sc-390376 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390376 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390376 PE), fluorescein (sc-390376 FITC), Alexa Fluor® 488 (sc-390376 AF488), Alexa Fluor® 546 (sc-390376 AF546), Alexa Fluor® 594 (sc-390376 AF594) or Alexa Fluor® 647 (sc-390376 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390376 AF680) or Alexa Fluor® 790 (sc-390376 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

eHAND (F-7) 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).

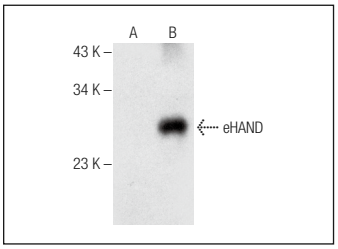
Suitable for use as control antibody for eHAND siRNA (h): sc-37922, eHAND siRNA (m): sc-37923, eHAND shRNA Plasmid (h): sc-37922-SH, eHAND shRNA Plasmid (m): sc-37923-SH, eHAND shRNA (h) Lentiviral Particles: sc-37922-V and eHAND shRNA (m) Lentiviral Particles: sc-37923-V.

eHAND (F-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

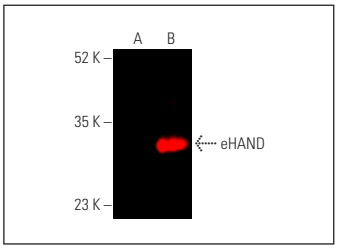
Molecular Weight of eHAND: 27 kDa.

Positive Controls: eHAND (h): 293T Lysate: sc-110104.

DATA



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.



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. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 790: sc-542740.

SELECT PRODUCT CITATIONS

1. Mak, K.H., et al. 2021. Histone demethylase JMJD2B/KDM4B regulates transcriptional program via distinctive epigenetic targets and protein interactors for the maintenance of trophoblast stem cells. Sci. Rep. 11: 884.
2. Ohgushi, M., et al. 2022. Delamination of trophoblast-like syncytia from the amniotic ectodermal analogue in human primed embryonic stem cell-based differentiation model. Cell Rep. 39: 110973.
3. Lau, K.Y.C., et al. 2022. Mouse embryo model derived exclusively from embryonic stem cells undergoes neurulation and heart development. Cell Stem Cell 29: 1445-1458.e8.
4. Lau, K.Y.C., et al. 2023. Assembly of complete mouse embryo models from embryonic and induced stem cell types *in vitro*. Nat. Protoc. 18: 3662-3689.

STORAGE

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