

# dHAND (A-12): sc-398167

## 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 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.

## CHROMOSOMAL LOCATION

Genetic locus: HAND2 (human) mapping to 4q34.1; Hand2 (mouse) mapping to 8 B2.

## SOURCE

dHAND (A-12) is a mouse monoclonal antibody raised against amino acids 1-110 of dHAND of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> 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-398167 X, 200 µg/0.1 ml.

dHAND (A-12) is available conjugated to agarose (sc-398167 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398167 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398167 PE), fluorescein (sc-398167 FITC), Alexa Fluor<sup>®</sup> 488 (sc-398167 AF488), Alexa Fluor<sup>®</sup> 546 (sc-398167 AF546), Alexa Fluor<sup>®</sup> 594 (sc-398167 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-398167 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-398167 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-398167 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

dHAND (A-12) is recommended for detection of dHAND 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).

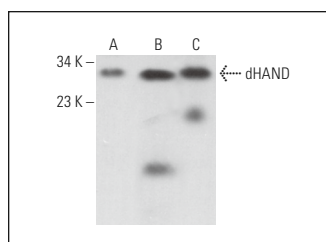
Suitable for use as control antibody for dHAND siRNA (h): sc-37920, dHAND siRNA (m): sc-37921, dHAND shRNA Plasmid (h): sc-37920-SH, dHAND shRNA Plasmid (m): sc-37921-SH, dHAND shRNA (h) Lentiviral Particles: sc-37920-V and dHAND shRNA (m) Lentiviral Particles: sc-37921-V.

dHAND (A-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

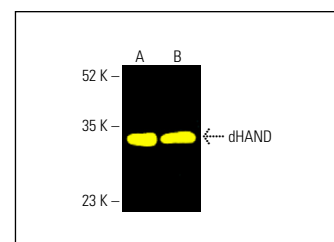
Molecular Weight of dHAND: 27 kDa.

Positive Controls: human ovary extract: sc-363769, SK-N-SH cell lysate: sc-2410 or human placenta extract: sc-363772.

## DATA



dHAND (A-12): sc-398167. Western blot analysis of dHAND expression in SK-N-SH (A) and C6 (B) whole cell lysates and mouse brain tissue extract (C).



dHAND (A-12): sc-398167. Fluorescent western blot analysis of dHAND expression in human placenta (A) and human ovary (B) tissue extracts. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgG, BP-CFL 488: sc-533661.

## SELECT PRODUCT CITATIONS

1. Prummel, K.D., et al. 2022. Hand2 delineates mesothelium progenitors and is reactivated in mesothelioma. *Nat. Commun.* 13: 1677.
2. Zhang, S., et al. 2023. NONO enhances mRNA processing of super-enhancer-associated GATA2 and HAND2 genes in neuroblastoma. *EMBO Rep.* 24: e54977.
3. Losa, M., et al. 2023. A spatio-temporally constrained gene regulatory network directed by PBX1/2 acquires limb patterning specificity via HAND2. *Nat. Commun.* 14: 3993.
4. Roberts, E.R., et al. 2025. Loss of PRICKLE1 leads to abnormal endometrial epithelial architecture, decreased embryo implantation, and reduced fertility in mice. *PNAS Nexus* 4: pgaf024.

## RESEARCH USE

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