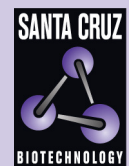


# dHAND (G-16): sc-9411



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 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

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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, HAND1 (human) mapping to 5q33; Hand2 (mouse) mapping to 8 B2, HAND1 (human) mapping to 11 B1.3.

## SOURCE

dHAND (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of dHAND of mouse origin.

## STORAGE

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

## PRODUCT

Each vial contains 200 µg IgG 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-9411 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-9411 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

dHAND (G-16) is recommended for detection of dHAND and eHAND of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

dHAND (G-16) is also recommended for detection of dHAND and eHAND in additional species, including equine, canine, bovine, porcine and avian.

dHAND (G-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of dHAND: 27 kDa.

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

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Satisfaction  
Guaranteed

Try **dHAND (A-12): sc-398167** or **dHAND (HAND2C1a): sc-130629**, our highly recommended monoclonal alternatives to dHAND (G-16).