SANTA CRUZ BIOTECHNOLOGY, INC.

# HB9 (H-20): sc-22542

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

The HB9 homeobox transcription factor regulates gene expression during embryonic development and also in specific adult tissues. HB9 gene mutations are implicated in Curriano syndrome, which is characterized by a triad consisting of a presacral tumor, sacral agenesis and anorectal malformation. In human bone marrow cells, HB9 expression directly correlates with CD34 expression. Furthermore, HB9 expression increases in $CD34^+$ cells that are treated with IL-3 and granulocyte macrophage-colony-stimulating factor. Early in murine development, HB9 is expressed in pancreatic buds (dorsal and ventral) with subsequent expression in differentiating β cells in the islets of Langerhans. The dorsal lobe of the pancreas fails to form in $HB9^-$ mice; the resultant pancreas has smaller islets of Langerhans and less β cells than normal pancreas. The HB9 gene is expressed in the human adult pancreas. In the developing vertebrate embryo, the HB9 gene plays an essential role in motor neuron differentiation. The motor columns of $HB9^-$ mice are disorganized, lacking phrenic and abducens nerves and exhibiting intercostal nerve defects.

## CHROMOSOMAL LOCATION

Genetic locus: HLXB9 (human) mapping to 7q36.3; Hlxb9 (mouse) mapping to 5 B1.

## SOURCE

HB9 (H-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HB9 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22542 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

HB9 (H-20) is recommended for detection of HB9 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

HB9 (H-20) is also recommended for detection of HB9 in additional species, including canine, bovine and porcine.

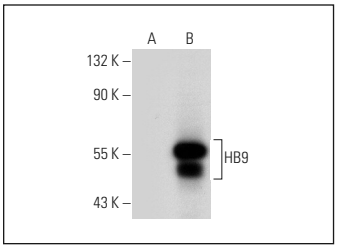
Suitable for use as control antibody for HB9 siRNA (h): sc-38667, HB9 siRNA (m): sc-38668, HB9 shRNA Plasmid (h): sc-38667-SH, HB9 shRNA Plasmid (m): sc-38668-SH, HB9 shRNA (h) Lentiviral Particles: sc-38667-V and HB9 shRNA (m) Lentiviral Particles: sc-38668-V.

Positive Controls: HB9 (h): 293T Lysate: sc-174136.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA




HB9 (H-20): sc-22542. Western blot analysis of HB9 expression in non-transfected: sc-117752 (**A**) and human HB9 transfected: sc-174136 (**B**) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Kitazawa, A., et al. 2007. Characterization of neurons differentiated from mouse embryonic stem cells using conditioned medium of dorsal root ganglia. J. Biosci. Bioeng. 104: 257-262.
2. Shao, Z., et al. 2011. Induced differentiation of neural stem cells of astrocytic origin to motor neurons in the rat. Stem Cells Dev. 20: 1163-1170.
3. Shahbazi, E., et al. 2011. Electrospun nanofibrillar surfaces promote neuronal differentiation and function from human embryonic stem cells. Tissue Eng. Part A 17: 3021-3031.


## STORAGE

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

## PROTOCOLS

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