

GRHL3 (I-12): sc-131538



The Power to Question

BACKGROUND

The grainyhead subfamily, whose members include GRHL1, GRHL2 and GRHL3, consist of orthologs of the *Drosophila* grainyhead (*grh*) gene. In *Drosophila*, *grh* is involved in early dorsal/ventral patterning and tissue development. The grainyhead subfamily members are, therefore, believed to act as transcription factors during development. GRHL1, GRHL2 and GRHL3 are localized to the nucleus and exist as homodimers or as heterodimers with each other. GRHL3, also known as sister of mammalian grainyhead (SOM) or transcription factor CP2-like 4 (TFCP2L4), is a 626 amino acid protein. Transgenic GRHL3-null mouse embryos have displayed many neural tube defects, indicating a significant role of GRHL3 in neural tube formation during development. GRHL3 is widely expressed and exists as four isoforms produced by alternative splicing. Isoform 2 has been shown to be prostate specific.

REFERENCES

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- Neumann, P.E., et al. 1994. Multifactorial inheritance of neural tube defects: localization of the major gene and recognition of modifiers in *ct* mutant mice. *Nat. Genet.* 6: 357-362.
- Wilanowski, T., et al. 2002. A highly conserved novel family of mammalian developmental transcription factors related to *Drosophila* grainyhead. *Mech. Dev.* 114: 37-50.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608317. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Ting, S.B., et al. 2003. The identification and characterization of human sister-of-mammalian grainyhead (SOM) expands the grainyhead-like family of developmental transcription factors. *Biochem. J.* 370: 953-962.

CHROMOSOMAL LOCATION

Genetic locus: GRHL3 (human) mapping to 1p36.11; *Grhl3* (mouse) mapping to 4 D3.

SOURCE

GRHL3 (I-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GRHL3 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-131538 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

GRHL3 (I-12) is recommended for detection of GRHL3 isoforms 1-4 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); non cross-reactive with family members GRHL1 or GRHL2.

GRHL3 (I-12) is also recommended for detection of GRHL3 isoforms 1-4 in additional species, including bovine and porcine.

Suitable for use as control antibody for GRHL3 siRNA (h): sc-78890, GRHL3 siRNA (m): sc-145762, GRHL3 shRNA Plasmid (h): sc-78890-SH, GRHL3 shRNA Plasmid (m): sc-145762-SH, GRHL3 shRNA (h) Lentiviral Particles: sc-78890-V and GRHL3 shRNA (m) Lentiviral Particles: sc-145762-V.

Molecular Weight of GRHL3: 70 kDa.

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 or our catalog for detailed protocols and support products.



Try **GRHL3 (C-12): sc-398838**, our highly recommended monoclonal alternative to GRHL3 (I-12).