

# GRHL3 (S-19): sc-101968

## 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

- Estibeiro, J.P., et al. 1993. Interaction between splotch (Sp) and curly tail (ct) mouse mutants in the embryonic development of neural tube defects. *Development* 119: 113-121.
- 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.
- Ting, S.B., et al. 2003. Inositol- and folate-resistant neural tube defects in mice lacking the epithelial-specific factor GRHL3. *Nat. Med.* 9: 1513-1519.
- Ting, S.B., et al. 2005. A homolog of *Drosophila* grainyhead is essential for epidermal integrity in mice. *Science* 308: 411-413.

## CHROMOSOMAL LOCATION

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

## SOURCE

GRHL3 (S-19) is a purified rabbit polyclonal antibody raised against GRHL3 of human origin.

## PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

## RESEARCH USE

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

## APPLICATIONS

GRHL3 (S-19) is recommended for detection of GRHL3 of mouse 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

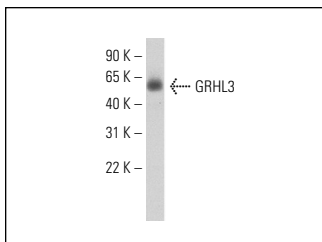
Suitable for use as control antibody for GRHL3 siRNA (h): sc-78890, GRHL3 siRNA (m): sc-145762, GRHL3 shRNA Plasmid (h): sc-78890-SH, GRHL3 shRNA Plasmid (m): sc-145762-SH, GRHL3 shRNA (h) Lentiviral Particles: sc-78890-V and GRHL3 shRNA (m) Lentiviral Particles: sc-145762-V.

Molecular Weight of GRHL3: 70 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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).

## DATA



GRHL3 (S-19): sc-101968. Western blot analysis of GRHL3 expression in placenta tissue extract.

## SELECT PRODUCT CITATIONS

- Panis, C., et al. 2013. Putative circulating markers of the early and advanced stages of breast cancer identified by high-resolution label-free proteomics. *Cancer Lett.* 330: 57-66.

## STORAGE

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



Try **GRHL3 (C-12): sc-398838**, our highly recommended monoclonal alternative to GRHL3 (S-19).