

GRHL2 (N-14): sc-87145

BACKGROUND

The grainyhead subfamily, whose members include GRHL1, GRHL2 and GRHL3, consist of orthologs of the *Drosophila* grainyhead (GRH) protein. 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. GRHL2, also known as BOM or TFCP2L3, is a 325 amino acid protein that is highly expressed in kidney, brain, placenta and prostate, with lower expression in thymus, lung and salivary gland. Like other members of the grainyhead family, GRHL2, which exists as 2 alternatively spliced isoforms, is thought to function as a transcription factor. Increased GRHL2 expression is thought to play a role in the pathogenesis of hepatocellular carcinoma, suggesting that GRHL2 may be involved in carcinogenesis. Defects in the gene encoding GRHL2 are the cause of non-syndromic sensorineural deafness autosomal dominant type 28 (DFNA28), a form of sensorineural hearing loss.

REFERENCES

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- Wilanowski, T., et al. 2002. A highly conserved novel family of mammalian developmental transcription factors related to *Drosophila* grainyhead. *Mech. Dev.* 114: 37-50.
- 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.
- Online Mendelian Inheritance in Man, OMIM[™]. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 608576. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Auden, A., et al. 2006. Spatial and temporal expression of the grainyhead-like transcription factor family during murine development. *Gene Expr. Patterns* 6: 964-970.
- Van Laer, L., et al. 2008. The grainyhead like 2 gene (GRHL2), alias TFCP2L3, is associated with age-related hearing impairment. *Hum. Mol. Genet.* 17: 159-169.
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CHROMOSOMAL LOCATION

Genetic locus: GRHL2 (human) mapping to 8q22.3; Grh2 (mouse) mapping to 15 B3.1.

SOURCE

GRHL2 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GRHL2 of human origin.

RESEARCH USE

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

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-87145 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GRHL2 (N-14) is recommended for detection of GRHL2 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).

GRHL2 (N-14) is also recommended for detection of GRHL2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GRHL2 siRNA (h): sc-77606, GRHL2 siRNA (m): sc-145761, GRHL2 shRNA Plasmid (h): sc-77606-SH, GRHL2 shRNA Plasmid (m): sc-145761-SH, GRHL2 shRNA (h) Lentiviral Particles: sc-77606-V and GRHL2 shRNA (m) Lentiviral Particles: sc-145761-V.

Molecular Weight of GRHL2: 71 kDa.

Positive Controls: BJAB nuclear extract: sc-2145, Ramos nuclear extract: sc-2153 or KNRK nuclear extract: sc-2141.

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.

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.