

GCNF (G-20): sc-34631

BACKGROUND

Germ cell nuclear factor (GCNF) is an orphan member of the nuclear receptor gene superfamily that influences neurogenesis and germ cell development. GCNF can homodimerize and bind DNA. GCNF regulates paracrine interaction between the oocyte and somatic cells by regulating the expression of BMP-15 and GDF-9, to affect female fertility. GCNF is present in spermatocytes and round spermatids of adult male mouse testis; northern blot and ribonuclease protection assays have shown GCNF is predominant in the testis. The gene expresses three alternatively spliced transcript variants.

REFERENCES

1. Chen, F., et al. 1994. Cloning of a novel orphan receptor (GCNF) expressed during germ cell development. *Mol. Endocrinol.* 8: 1434-1444.
2. Kapelle, M., et al. 1997. cDNA cloning of two closely related forms of human germ cell nuclear factor (GCNF). *Biochim. Biophys. Acta* 1352: 13-17.
3. Agoulnik, I.Y., et al. 1998. Cloning, expression analysis and chromosomal localization of the human nuclear receptor gene GCNF. *FEBS Lett.* 424: 73-78.
4. Bauer, U.M., et al. 1998. The murine nuclear orphan receptor GCNF is expressed in the XY body of primary spermatocytes. *FEBS Lett.* 439: 208-214.
5. Charles, J.P., et al. 1999. Characterization and DNA-binding properties of GRF, a novel monomeric binding orphan receptor related to GCNF and β FTZ-F1. *Eur. J. Biochem.* 266: 181-190.
6. Schohl, A., et al. 2002. Oocytes and embryos of *Xenopus laevis* express two different isoforms of germ cell nuclear factor (GCNF, NR6A1). *Mech. Dev.* 118: 261-264.
7. Lan, Z.J., et al. 2003. GCNF-dependent repression of BMP-15 and GDF-9 mediates gamete regulation of female fertility. *EMBO J.* 22: 4070-4081.
8. Sattler, U., et al. 2004. The expression level of the orphan nuclear receptor GCNF (germ cell nuclear factor) is critical for neuronal differentiation. *Mol. Endocrinol.* 18: 2714-2726.
9. Ishihara, S.L., et al. 2005. A boundary for histone acetylation allows distinct expression patterns of the Ad4BP/SF-1 and GCNF loci in adrenal cortex cells. *Biochem. Biophys. Res. Commun.* 329: 554-562.

CHROMOSOMAL LOCATION

Genetic locus: NR6A1 (human) mapping to 9q33.3; Nr6a1 (mouse) mapping to 2 B.

SOURCE

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

Blocking peptide available for competition studies, sc-34631 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-34631 X, 200 µg/0.1 ml.

APPLICATIONS

GCNF (G-20) is recommended for detection of GCNF 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).

GCNF (G-20) is also recommended for detection of GCNF in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for GCNF siRNA (h): sc-43573, GCNF siRNA (m): sc-45761, GCNF shRNA Plasmid (h): sc-43573-SH, GCNF shRNA Plasmid (m): sc-45761-SH, GCNF shRNA (h) Lentiviral Particles: sc-43573-V and GCNF shRNA (m) Lentiviral Particles: sc-45761-V.

GCNF (G-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of GCNF: 60 kDa.

Positive Controls: F9 cell lysate: sc-2245.

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.