

MGC4618 (Q-12): sc-165021

BACKGROUND

MGC4618, also known as TMEM175 (transmembrane protein 175), is a 504 amino acid multi-pass membrane protein that is expressed as 2 isoforms produced by alternative splicing. The gene encoding MGC4618 maps to chromosome 4. Representing approximately 6% of the human genome, chromosome 4 contains nearly 900 genes. Notably, the Huntingtin gene, which is found to encode an expanded glutamine tract in cases of Huntington's disease, is on chromosome 4. FGFR-3 is also encoded on chromosome 4 and has been associated with thanatophoric dwarfism, achondroplasia, Muenke syndrome and bladder cancer. Chromosome 4 is also tied to Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease. Chromosome 4 reportedly contains the largest gene deserts (regions of the genome with no protein encoding genes) and has one of the two lowest recombination frequencies of the human chromosomes. The MGC4618 gene product has been provisionally designated MGC4618 pending further characterization.

REFERENCES

- Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. *Nature* 434: 724-731.
- Cowan, C.M., et al. 2006. Selective neuronal degeneration in Huntington's disease. *Curr. Top. Dev. Biol.* 75:25-71.
- Chandler, R.J., et al. 2007. Metabolic phenotype of methylmalonic acidemia in mice and humans: the role of skeletal muscle. *BMC Med. Genet.* 8: 64
- Cunningham, M.L., et al. 2007. Syndromic craniosynostosis: from history to hydrogen bonds. *Orthod. Craniofac. Res.* 10: 67-81.
- de Frutos, C.A., et al. 2007. Snail1 is a transcriptional effector of FGFR3 signaling during chondrogenesis and achondroplasias. *Dev. Cell* 13: 872-883.
- Versteegh, F.G., et al. 2007. EvC Working Party. Growth hormone analysis and treatment in Ellis-van Creveld syndrome. *Am. J. Med. Genet. A* 143: 2113-2121.
- Doherty, E.S., et al. 2007. Muenke syndrome (FGFR3-related craniosynostosis): Expansion of the phenotype and review of the literature. *Am. J. Med. Genet. A* 143: 3204-3215.
- Ruiz-Perez, V.L., et al. 2007. Evc is a positive mediator of Ihh-regulated bone growth that localises at the base of chondrocyte cilia. *Development* 134: 2903-2912.
- Stack, E.C., et al. 2007. Neuroprotective effects of synaptic modulation in Huntington's disease R6/2 mice. *J. Neurosci.* 27: 12908-12915.

CHROMOSOMAL LOCATION

Genetic locus: TMEM175 (human) mapping to 4p16.3; Tmem175 (mouse) mapping to 5 F.

SOURCE

MGC4618 (Q-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MGC4618 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-165021 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MGC4618 (Q-12) is recommended for detection of TMEM175 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).

MGC4618 (Q-12) is also recommended for detection of TMEM175 in additional species, including equine and canine.

Suitable for use as control antibody for MGC4618 siRNA (h): sc-88930, TMEM175 siRNA (m): sc-154413, MGC4618 shRNA Plasmid (h): sc-88930-SH, TMEM175 shRNA Plasmid (m): sc-154413-SH, MGC4618 shRNA (h) Lentiviral Particles: sc-88930-V and TMEM175 shRNA (m) Lentiviral Particles: sc-154413-V.

Molecular Weight of MGC4618: 56 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

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.

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.