

cadherin-23 (C-20): sc-26338

BACKGROUND

Cadherin-23 represents the first in this family of calcium binding proteins of which mutations in the extracellular calcium binding domain contribute to an inherited disorder, Usher syndrome type 1D (USH1D). Patients with USH1D exhibit congenital sensorineural hearing loss, vestibular dysfunction and visual impairment due to early onset of retinitis pigmentosa (RP). In the inner ear, cadherin-23 interacts with Myosin VIIA and harmonin to form a functional network during hair cell differentiation and in the retina to assemble a supra-molecular complex contributing to the organization of the cytoskeletal matrices of the pre- and post-synaptic region. A number of cadherin-23 splice variants exist in association with various phenotypic expression, indicating that differential mutations result in variable presentation of the disease.

REFERENCES

1. Di Palma, F., et al. 2001. Genomic structure, alternative splice forms and normal and mutant alleles of cadherin 23 (Cdh23). *Gene* 281: 31-41.
2. Bolz, H., et al. 2001. Mutation of CDH23, encoding a new member of the cadherin gene family, causes Usher syndrome type 1D. *Nat. Genet.* 27: 108-112.
3. Boëda, B., et al. 2002. Myosin VIIa, harmonin and cadherin 23, three Usher I gene products that cooperate to shape the sensory hair cell bundle. *EMBO J.* 21: 6689-6699.
4. Siemens, J., et al. 2002. The Usher syndrome proteins cadherin 23 and harmonin form a complex by means of PDZ-domain interactions. *Proc. Natl. Acad. Sci. USA* 99:14946-14951.
5. Noben-Trauth, K., et al. 2003. Association of cadherin 23 with polygenic inheritance and genetic modification of sensorineural hearing loss. *Nat. Genet.* 35: 21-23.
6. Reiners, J., et al. 2003. Differential distribution of harmonin isoforms and their possible role in Usher-1 protein complexes in mammalian photoreceptor cells. *Invest. Ophthalmol. Vis. Sci.* 44: 5006-5015.

CHROMOSOMAL LOCATION

Genetic locus: CDH23 (human) mapping to 10q22.1; Cdh23 (mouse) mapping to 10 B4.

SOURCE

cadherin-23 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of cadherin-23 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-26338 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

cadherin-23 (C-20) is recommended for detection of cadherin-23 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and 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).

cadherin-23 (C-20) is also recommended for detection of cadherin-23 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for cadherin-23 siRNA (h): sc-43009, cadherin-23 siRNA (m): sc-43010, cadherin-23 shRNA Plasmid (h): sc-43009-SH, cadherin-23 shRNA Plasmid (m): sc-43010-SH, cadherin-23 shRNA (h) Lentiviral Particles: sc-43009-V and cadherin-23 shRNA (m) Lentiviral Particles: sc-43010-V.

Molecular Weight of cadherin-23: 370 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 **cadherin-23 (H-7): sc-166066** or **cadherin-23 (A-5): sc-166067**, our highly recommended monoclonal alternatives to cadherin-23 (C-20).