

Usherin (G-6): sc-515555

BACKGROUND

Usherin is a membrane glycoprotein mainly expressed in all capillary and structural basement membranes of the retina and inner ear. It is also found in the spleen, oviduct, epididymis, testis and intestines. Usherin is crucial for inner ear and retina development and also functions to maintain homeostasis in many other organs. Fibronectin interacts with the LE domain of Usherin in retinal basement membranes and Collagen IV stabilizes Usherin in testicular basement membranes. Mutations in Usherin have been associated with Usher syndrome type IIa, characterized by moderate to severe congenital sensorineural hearing loss with retinitis pigmentosa. These symptoms are caused by the disruption of hair bundle links-mediated adhesion forces that are crucial for the correct organization of growing hair bundles.

REFERENCES

1. Pearsall, N., et al. 2002. Usherin expression is highly conserved in mouse and human tissues. *Hear. Res.* 174: 55-63.
2. Bhattacharya, G., et al. 2003. A domain-specific Usherin/Collagen IV interaction may be required for stable integration into the basement membrane superstructure. *J. Cell Sci.* 117: 233-242.
3. Aller, E., et al. 2004. Genetic analysis of 2299delG and C759F mutations and/or auditory impairments. *Eur. J. Hum. Genet.* 12: 407-410.
4. Pennings, R.J., et al. 2004. USH2A mutation analysis in 70 Dutch families with Usher syndrome type II. *Hum. Mutat.* 24: 185.

CHROMOSOMAL LOCATION

Genetic locus: USH2A (human) mapping to 1q41; Ush2a (mouse) mapping to 1 H6.

SOURCE

Usherin (G-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 26-45 near the N-terminus of Usherin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Usherin (G-6) is available conjugated to agarose (sc-515555 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515555 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515555 PE), fluorescein (sc-515555 FITC), Alexa Fluor® 488 (sc-515555 AF488), Alexa Fluor® 546 (sc-515555 AF546), Alexa Fluor® 594 (sc-515555 AF594) or Alexa Fluor® 647 (sc-515555 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515555 AF680) or Alexa Fluor® 790 (sc-515555 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515555 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

Usherin (G-6) is recommended for detection of Usherin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for Usherin siRNA (h): sc-61762, Usherin siRNA (m): sc-154941, Usherin shRNA Plasmid (h): sc-61762-SH, Usherin shRNA Plasmid (m): sc-154941-SH, Usherin shRNA (h) Lentiviral Particles: sc-61762-V and Usherin shRNA (m) Lentiviral Particles: sc-154941-V.

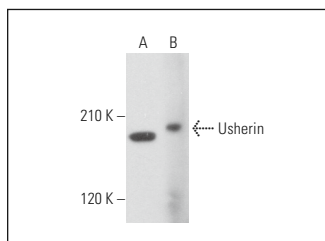
Molecular Weight of Usherin: 171 kDa.

Positive Controls: human bladder extract: sc-363751 or mouse bladder extract: sc-364919.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Usherin (G-6): sc-515555. Western blot analysis of Usherin expression in human bladder (A) and mouse bladder (B) tissue extracts.

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 for detailed protocols and support products.