SANTA CRUZ BIOTECHNOLOGY, INC.

USH1G (D-10): sc-514418

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

USH1G (Usher syndrome 1G), also known as ANKS4A or SANS, is a 461 amino acid protein that contains 3 ANK repeats and one SAM (sterile α motif) domain. Expressed in the small intestine, as well as in tissue of the eye and inner ear, USH1G associates with Harmonin and is thought to play a role in the development and maintenance of both auditory and visual systems, specifically by mediating the cohesion of hair bundles formed by inner ear sensory cells. Defects in the gene encoding USH1G are the cause of Usher syndrome type 1G (USH1G), a heterogeneous condition that is characterized by profound congenital sensorineural deafness, absent vestibular function and prepubertal onset of progressive retinitis pigmentosa, ultimately leading to blindness.

REFERENCES

1. Kitamura, K., et al. 1992. Ultrastructural findings in the inner ear of Jackson shaker mice. Acta Otolaryngol. 112: 622-627.
2. Kikkawa, Y., et al. 2003. Mutations in a new scaffold protein Sans cause deafness in Jackson shaker mice. Hum. Mol. Genet. 12: 453-461.
3. Weil, D., et al. 2003. Usher syndrome type I G (USH1G) is caused by mutations in the gene encoding SANS, a protein that associates with the USH1C protein, harmonin. Hum. Mol. Genet. 12: 463-471.

CHROMOSOMAL LOCATION

Genetic locus: USH1G (human) mapping to 17q25.1; Ush1g (mouse) mapping to 11 E2.

SOURCE

USH1G (D-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-17 at the N-terminus of USH1G of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

USH1G (D-10) is available conjugated to agarose (sc-514418 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514418 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514418 PE), fluorescein (sc-514418 FITC), Alexa Fluor® 488 (sc-514418 AF488), Alexa Fluor® 546 (sc-514418 AF546), Alexa Fluor® 594 (sc-514418 AF594) or Alexa Fluor® 647 (sc-514418 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514418 AF680) or Alexa Fluor® 790 (sc-514418 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514418 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

USH1G (D-10) is recommended for detection of USH1G 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 USH1G siRNA (h): sc-63189, USH1G siRNA (m): sc-63190, USH1G shRNA Plasmid (h): sc-63189-SH, USH1G shRNA Plasmid (m): sc-63190-SH, USH1G shRNA (h) Lentiviral Particles: sc-63189-V and USH1G shRNA (m) Lentiviral Particles: sc-63190-V.

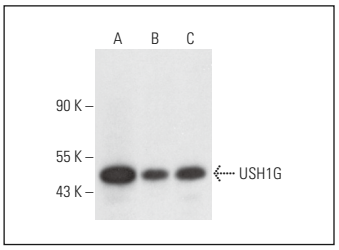
Molecular Weight of USH1G: 51 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, RT-4 whole cell lysate: sc-364257 or U-251-MG whole cell lysate: sc-364176.

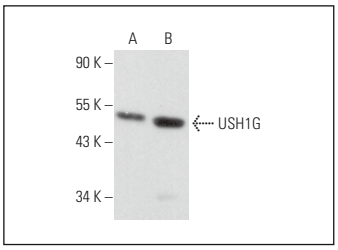
RECOMMENDED SUPPORT REAGENTS

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



USH1G (D-10): sc-514418. Western blot analysis of USH1G expression in A-431 (**A**), RT-4 (**B**) and U-251-MG (**C**) whole cell lysates.



USH1G (D-10): sc-514418. Western blot analysis of USH1G expression in A-431 (**A**) and F9 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Blanco-Sánchez, B., et al. 2018. Grxcr1 promotes hair bundle development by destabilizing the physical interaction between harmonin and Sans Usher syndrome proteins. Cell Rep. 25: 1281-1291.
2. Yildirim, A., et al. 2021. SANS (USH1G) regulates pre-mRNA splicing by mediating the intra-nuclear transfer of tri-snRNP complexes. Nucleic Acids Res. 49: 5845-5866.

RESEARCH USE

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