

PCDH15 (H-3): sc-377235

BACKGROUND

Protocadherins are a large family of cadherin-like cell adhesion proteins that are involved in the establishment and maintenance of neuronal connections in the brain. There are three protocadherin gene clusters, designated α , β and γ , all of which contain multiple tandemly arranged genes. PCDH15 (protocadherin 15), also known as USH1F or DFNB23, is a 1,955 amino acid single-pass type I membrane protein that contains 11 cadherin domains and exists as multiple alternatively spliced isoforms. Expressed in testis, brain, lung, kidney and spleen, PCDH15 functions as a calcium-dependent cell-adhesion protein that is crucial for the maintenance of normal cochlear and retinal function. Defects in the gene encoding PCDH15 are associated with Usher syndrome type 1F (USH1F), Usher syndrome type 1D/F (USH1DF) and non-syndromic sensorineural deafness autosomal recessive type 23 (DFNB23), all of which are associated with deafness. Multiple isoforms of PCDH15 exist due to alternative splicing events.

REFERENCES

1. Ahmed, Z.M., et al. 2001. Mutations of the protocadherin gene PCDH15 cause Usher syndrome type 1F. *Am. J. Hum. Genet.* 69: 25-34.
2. Agramam, K.N., et al. 2001. Mutations in the novel protocadherin PCDH15 cause Usher syndrome type 1F. *Hum. Mol. Genet.* 10: 1709-1718.
3. Ahmed, Z.M., et al. 2003. PCDH15 is expressed in the neurosensory epithelium of the eye and ear and mutant alleles are responsible for both USH1F and DFNB23. *Hum. Mol. Genet.* 12: 3215-3223.

CHROMOSOMAL LOCATION

Genetic locus: PCDH15 (human) mapping to 10q21.1; Pcdh15 (mouse) mapping to 10 B5.3.

SOURCE

PCDH15 (H-3) is a mouse monoclonal antibody raised against amino acids 781-1079 mapping within an internal region of PCDH15 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PCDH15 (H-3) is available conjugated to agarose (sc-377235 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377235 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377235 PE), fluorescein (sc-377235 FITC), Alexa Fluor[®] 488 (sc-377235 AF488), Alexa Fluor[®] 546 (sc-377235 AF546), Alexa Fluor[®] 594 (sc-377235 AF594) or Alexa Fluor[®] 647 (sc-377235 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-377235 AF680) or Alexa Fluor[®] 790 (sc-377235 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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

PCDH15 (H-3) is recommended for detection of PCDH15 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 PCDH15 siRNA (h): sc-90494, Pcdh15 siRNA (m): sc-152056, PCDH15 shRNA Plasmid (h): sc-90494-SH, Pcdh15 shRNA Plasmid (m): sc-152056-SH, PCDH15 shRNA (h) Lentiviral Particles: sc-90494-V and Pcdh15 shRNA (m) Lentiviral Particles: sc-152056-V.

Molecular Weight (predicted) of PCDH15 isoforms: 216/92/107 kDa.

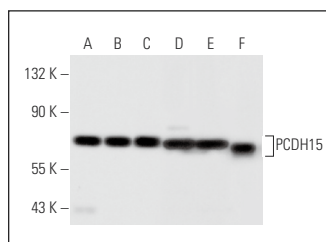
Molecular Weight (observed) of PCDH15: 70 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HEK293 whole cell lysate: sc-45136 or HeLa whole cell lysate: sc-2200.

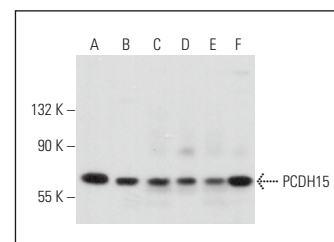
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



PCDH15 (H-3): sc-377235. Western blot analysis of PCDH15 expression in Hep G2 (A), HEK293 (B), HeLa (C), NIH/3T3 (D) and K-562 (E) whole cell lysates and mouse testis tissue extract (F).



PCDH15 (H-3): sc-377235. Western blot analysis of PCDH15 expression in HeLa (A) and ARPE-19 (B) whole cell lysates and mouse cerebellum (C), rat eye (D), mouse brain (E) and rat cerebellum (F) tissue extracts.

SELECT PRODUCT CITATIONS

1. Libé-Philippot, B., et al. 2017. Auditory cortex interneuron development requires cadherins operating hair-cell mechanoelectrical transduction. *Proc. Natl. Acad. Sci. USA* 114: 7765-7774.

RESEARCH USE

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