SANTA CRUZ BIOTECHNOLOGY, INC.

Pendrin (G-11): sc-518108

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Pendred syndrome (PDS), an autosomal recessive disorder, is the most common form of syndromic deafness characterized by congenital sensorineural hearing loss and goiter. The gene associated with PDS is mapped to chromosome 7 and encodes a putative transmembrane protein designated Pendrin. Several mutations in the gene have been identified and account for about 10% of hereditary deafness. Pendrin transcripts are expressed at significant levels in the thyroid, inner ear, fetal cochlea and kidney, but expression is drastically reduced in thyroid carcinomas. Pendrin functions as a transporter of chloride and iodide, but not sulfate, in these tissues. Pendrin is an apical anion transporter in intercalated cells of proximal tubule and cortical collecting ducts, which mediate renal bicarbonate secretion and Cl^-/OH^-, Cl^-/HCO_3^- and Cl^-/formate exchange in kidney. Pendrin is expressed throughout the endo-lymphatic duct and sac in distinct areas of the utricle and saccule and in the external sulcus region within the cochlea, where it plays a role in the development of ion gradients.

REFERENCES

1. Everett, L.A., et al. 1997. Pendred syndrome is caused by mutations in a putative sulphate transporter gene (PDS). Nat. Genet. 17: 411-422.
2. Coyle, B., et al. 1998. Molecular analysis of the PDS gene in Pendred syndrome. Hum. Mol. Genet. 7: 1105-1112.
3. Everett, L.A., et al. 1999. Expression pattern of the mouse ortholog of the Pendred's syndrome gene (Pds) suggests a key role for Pendrin in the inner ear. Proc. Natl. Acad. Sci. USA 96: 9727-9732.
4. Scott, D.A., et al. 1999. The Pendred syndrome gene encodes a chloride-iodide transport protein. Nat. Genet. 21: 440-443.

CHROMOSOMAL LOCATION

Genetic locus: SLC26A4 (human) mapping to 7q22.3; Slc26a4 (mouse) mapping to 12 A3.

SOURCE

Pendrin (G-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 462-481 within an extracellular domain of Pendrin of human origin.

PRODUCT

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

Pendrin (G-11) is available conjugated to agarose (sc-518108 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518108 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518108 PE), fluorescein (sc-518108 FITC), Alexa Fluor® 488 (sc-518108 AF488), Alexa Fluor® 546 (sc-518108 AF546), Alexa Fluor® 594 (sc-518108 AF594) or Alexa Fluor® 647 (sc-518108 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518108 AF680) or Alexa Fluor® 790 (sc-518108 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Pendrin (G-11) is recommended for detection of Pendrin 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 Pendrin siRNA (h): sc-44009, Pendrin siRNA (m): sc-44391, Pendrin shRNA Plasmid (h): sc-44009-SH, Pendrin shRNA Plasmid (m): sc-44391-SH, Pendrin shRNA (h) Lentiviral Particles: sc-44009-V and Pendrin shRNA (m) Lentiviral Particles: sc-44391-V.

Molecular Weight of nonglycosylated Pendrin: 85 kDa.

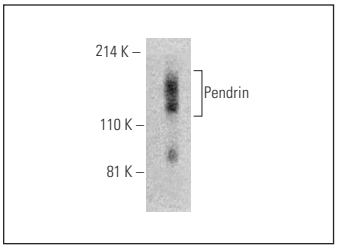
Molecular Weight of glycosylated Pendrin: 110-140 kDa.

Positive Controls: mouse thyroid extract: sc-2407.

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



Pendrin (G-11): sc-518108. Western blot analysis of Pendrin expression in mouse thyroid tissue extract. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.

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.