SANTA CRUZ BIOTECHNOLOGY, INC.

Pendrin (C-2): sc-518130

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 endolymphatic 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.

CHROMOSOMAL LOCATION

Genetic locus: SLC26A4 (human) mapping to 7q22.3.

SOURCE

Pendrin (C-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 620-641 of Pendrin 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.

APPLICATIONS

Pendrin (C-2) is recommended for detection of Pendrin of 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 shRNA Plasmid (h): sc-44009-SH and Pendrin shRNA (h) Lentiviral Particles: sc-44009-V.

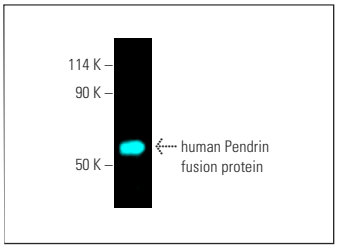
Molecular Weight of nonglycosylated Pendrin: 85 kDa.

Molecular Weight of glycosylated Pendrin: 110-140 kDa.

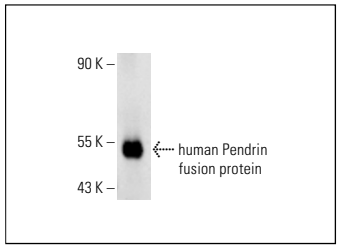
RECOMMENDED SUPPORT REAGENTS

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 (C-2): sc-518130. Fluorescent western blot analysis of human recombinant Pendrin fusion protein. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 647: sc-533664.



Pendrin (C-2): sc-518130. Western blot analysis of partial human recombinant Pendrin fusion protein. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

1. Zhang, L., et al. 2021. Diallyl trisulphide, a H_2S donor, compromises the stem cell phenotype and restores thyroid-specific gene expression in anaplastic thyroid carcinoma cells by targeting AKT-SOX2 axis. Phytother. Res. 35: 3428-3443.
2. Zhang, L., et al. 2021. Curcumin enhances the membrane trafficking of the sodium iodide symporter and augments radioiodine uptake in dedifferentiated thyroid cancer cells via suppression of the PI3K-AKT signaling pathway. Food Funct. 12: 8260-8273.

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.