

PORCN (K-13): sc-139026

BACKGROUND

PORCN (probable protein-cysteine N-palmitoyltransferase porcupine), also known as MG61, PORC, PPN, por, DHOF or FODH, is a 461 amino acid multi-pass membrane protein that localizes to the endoplasmic reticulum. Expressed as four isoforms that are found in a variety of tissues, including brain, testis, heart, skeletal muscle, spinal cord and lung, PORCN functions to modulate the processing of Wnt proteins. Specifically, PORCN interacts with Wnt-1, Wnt-3, Wnt-4 and Wnt-6 and acts as a protein-cysteine N-palmitoyltransferase that palmitoylates target Wnt proteins. Defects in the gene encoding PORCN are associated with focal dermal hypoplasia (FDH) (also known as Goltz syndrome), an X-linked disorder characterized by improper ectodermal and mesodermal tissue development.

REFERENCES

1. Tanaka, K., et al. 2000. The evolutionarily conserved porcupine gene family is involved in the processing of the Wnt family. *Eur. J. Biochem.* 267: 4300-4311.
2. Caricasole, A., et al. 2002. Molecular cloning and initial characterization of the MG61/PORC gene, the human homologue of the *Drosophila* segment polarity gene Porcupine. *Gene* 288: 147-157.
3. Tanaka, K., et al. 2003. Misexpression of mouse porcupine isoforms modulates the differentiation of P19 embryonic carcinoma cells. *Cell Biol. Int.* 27: 549-557.
4. Grzeschik, K.H., et al. 2007. Deficiency of PORCN, a regulator of Wnt signaling, is associated with focal dermal hypoplasia. *Nat. Genet.* 39: 833-835.
5. Wang, X., et al. 2007. Mutations in X-linked PORCN, a putative regulator of Wnt signaling, cause focal dermal hypoplasia. *Nat. Genet.* 39: 836-838.
6. Leoyklang, P., et al. 2008. Three novel mutations in the PORCN gene underlying focal dermal hypoplasia. *Clin. Genet.* 73: 373-379.

CHROMOSOMAL LOCATION

Genetic locus: PORCN (human) mapping to Xp11.23; Porcn (mouse) mapping to X A1.1.

SOURCE

PORCN (K-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of PORCN of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-139026 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

PORCN (K-13) is recommended for detection of PORCN of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PORCN (K-13) is also recommended for detection of PORCN in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PORCN siRNA (h): sc-90930, PORCN siRNA (m): sc-152391, PORCN shRNA Plasmid (h): sc-90930-SH, PORCN shRNA Plasmid (m): sc-152391-SH, PORCN shRNA (h) Lentiviral Particles: sc-90930-V and PORCN shRNA (m) Lentiviral Particles: sc-152391-V.

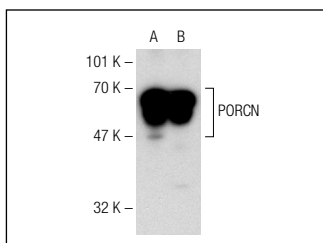
Molecular Weight of PORCN: 52 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or PC-12 cell lysate: sc-2250.

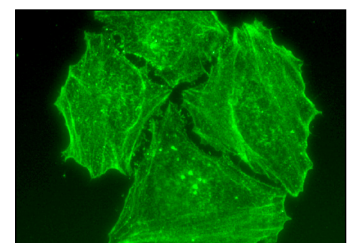
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PORCN (K-13): sc-139026. Western blot analysis of PORCN expression in K-562 (A) and PC-12 (B) whole cell lysates.



PORCN (K-13): sc-139026. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.