

cubilin (H-300): sc-50318

BACKGROUND

Cubilin is an endocytic receptor that lacks a classical transmembrane region. It is a multidomain receptor that contains an amino terminal 110 residue segment followed by 8 epidermal growth factor (EGF)-like repeats and a contiguous stretch of 27 CUB domains. The gene encoding human cubilin maps to chromosome 10 and it is predominantly expressed in intestine, kidney and yolk sac. It also is expressed in intestinal membranes. Cubilin co-localizes with and binds to megalin, a member of the LDL receptor family that is required for the internalization of cubilin-bound ligands, such as vitamin B12, apolipoprotein A1 and Albumin. Megalin specifically binds to cubilin in the amino terminal region that contains the EGF-like repeats and CUB domains 1 and 2. Mutations in the cubilin gene are thought to cause megaloblastic anemia 1 (MGA1), an autosomal recessive disorder also known as Imlerslund-Grasbeck's disease, which causes intestinal malabsorption of vitamin B12.

REFERENCES

1. Kozyraki, R., et al. 1998. The human intrinsic factor-vitamin B12 receptor, cubilin: molecular characterization and chromosomal mapping of the gene to 10p within the autosomal recessive megaloblastic anemia (MGA1) region. *Blood* 91: 3593-3600.
2. Aminoff, M., et al. 1999. Mutations in CUBN, encoding the intrinsic factor-vitamin B12 receptor, cubilin, cause hereditary megaloblastic anemia 1. *Nat. Genet.* 21: 309-313.
3. Kristiansen, M., et al. 2000. Cubilin P1297L mutation associated with hereditary megaloblastic anemia 1 causes impaired recognition of intrinsic factor-vitamin B12 by cubilin. *Blood* 96: 405-409.
4. Kozyraki, R., et al. 2001. Megalin-dependent cubilin-mediated endocytosis is a major pathway for the apical uptake of transferrin in polarized epithelia. *Proc. Natl. Acad. Sci. USA* 98: 12491-12496.
5. Yammani, R.R., et al. 2001. Cubulin and megalin expression and their interaction in the rat intestine: effect of thyroidectomy. *Am. J. Physiol. Endocrinol. Metab.* 281: 900-907.
6. Kozyraki, R., et al. 2001. Cubulin, a multifunctional epithelial receptor: an overview. *J. Mol. Med.* 79: 161-167.
7. Nykjaer, A., et al. 2001. Cubilin dysfunction causes abnormal metabolism of the steroid hormone 25OH vitamin D3. *Proc. Natl. Acad. Sci. USA* 98: 13895-13900.

CHROMOSOMAL LOCATION

Genetic locus: CUBN (human) mapping to 10p13.

SOURCE

cubilin (H-300) is a rabbit polyclonal antibody raised against amino acids 3324-3623 mapping at the C-terminus of cubilin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

cubilin (H-300) is recommended for detection of cubilin of human origin by Western Blotting (starting dilution 1:200, 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 cubilin siRNA (h): sc-40099, cubilin shRNA Plasmid (h): sc-40099-SH and cubilin shRNA (h) Lentiviral Particles: sc-40099-V.

Molecular Weight of cubilin: 460 kDa.

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.

SELECT PRODUCT CITATIONS

1. Prutskova, N.P., et al. 2013. Absorption capacity of renal proximal tubular cells studied by combined injections of YFP and GFP in *Rana temporaria* L. *Comp. Biochem. Physiol., Part A Mol. Integr. Physiol.* 166: 138-146.

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 or our catalog for detailed protocols and support products.