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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

cubilin (H-3): sc-518059

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 eight epidermal growth factor (EGF)-like repeats and a contiguous stretch of 27 CUB domains. The gene encoding human cubilin maps to chromosome 10p13 and it is predominantly expressed in intestine, kidney and yolk sac. It also is expressed in intestinal membranes. Cubilin colocalizes 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 anaemia 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.

CHROMOSOMAL LOCATION

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

SOURCE

cubilin (H-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 50-73 near the N-terminus of cubilin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

cubilin (H-3) is available conjugated to agarose (sc-518059 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518059 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518059 PE), fluorescein (sc-518059 FITC), Alexa Fluor[®] 488 (sc-518059 AF488), Alexa Fluor[®] 546 (sc-518059 AF546), Alexa Fluor[®] 594 (sc-518059 AF594) or Alexa Fluor[®] 647 (sc-518059 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-518059 AF680) or Alexa Fluor[®] 790 (sc-518059 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

cubilin (H-3) is recommended for detection of cubilin 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 cubilin siRNA (h): sc-40099, cubilin shRNA Plasmid (h): sc-40099-SH and cubilin shRNA (h) Lentiviral Particles: sc-40099-V.

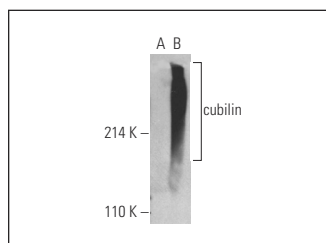
Molecular Weight of cubilin: 460 kDa.

Positive Controls: human cubilin transfected 293T whole cell lysate or human kidney extract: sc-363764.

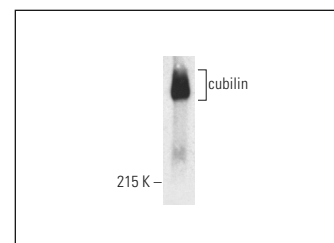
RECOMMENDED SUPPORT REAGENTS

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



cubilin (H-3): sc-518059. Western blot analysis of cubilin expression in non-transfected (A) and human cubilin transfected (B) 293T whole cell lysates. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.



cubilin (H-3): sc-518059. Western blot analysis of cubilin expression in human kidney tissue extract.

SELECT PRODUCT CITATIONS

1. Kulkarni, K., et al. 2023. Angiotensin II type 2 receptor activation preserves megalin in the kidney and prevents proteinuria in high salt diet fed rats. *Sci. Rep.* 13: 4277.

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.