

# megalin (G-9): sc-515750

## BACKGROUND

Members of the LDL receptor gene family, including LDLR (low density lipoprotein receptor), LRP (low density lipoprotein related protein), megalin (also designated GP330), VLDLR (very low density lipoprotein receptor) and ApoER2, are characterized by a cluster of cysteine-rich class A repeats, epidermal growth factor (EGF)-like repeats, YWTD repeats and an O-linked sugar domain. Megalin is expressed on the apical membrane domain of epithelial cells, including proximal kidney tubules, intestine and ependymal cells. Proper folding and trafficking of megalin is facilitated by the receptor-associated protein (RAP), a molecular chaperone that can block the uptake of all known ligands for megalin. Specifically, megalin mediates the uptake of apolipoprotein J (apoJ, also designated Clusterin), which is a binding protein for the  $\beta$ -Amyloid peptide, a peptide implicated in Alzheimer's disease. Megalin is also an antigenic determinant for Heymann nephritis in rats and may be important in the reabsorption of several molecules, including vitamin B<sub>12</sub>, in the kidney.

## CHROMOSOMAL LOCATION

Genetic locus: Lrp2 (mouse) mapping to 2 C2.

## SOURCE

megalin (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 4581-4604 within a C-terminal cytoplasmic domain of megalin of rat origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

megalin (G-9) is available conjugated to agarose (sc-515750 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515750 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515750 PE), fluorescein (sc-515750 FITC), Alexa Fluor<sup>®</sup> 488 (sc-515750 AF488), Alexa Fluor<sup>®</sup> 546 (sc-515750 AF546), Alexa Fluor<sup>®</sup> 594 (sc-515750 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-515750 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-515750 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-515750 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

megalin (G-9) is recommended for detection of megalin of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 megalin siRNA (m): sc-40104, megalin siRNA (r): sc-108041, megalin shRNA Plasmid (m): sc-40104-SH, megalin shRNA Plasmid (r): sc-108041-SH, megalin shRNA (m) Lentiviral Particles: sc-40104-V and megalin shRNA (r) Lentiviral Particles: sc-108041-V.

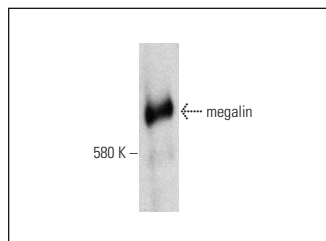
Molecular Weight of megalin: 600 kDa.

Positive Controls: rat kidney extract: sc-2394.

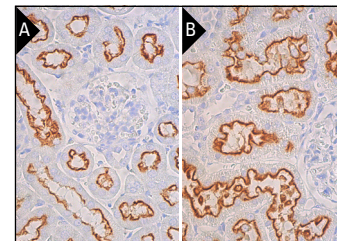
## STORAGE

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

## DATA



megalin (G-9): sc-515750. Western blot analysis of megalin expression in rat kidney tissue extract.



megalin (G-9): sc-515750. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse kidney tissue showing apical membrane staining of cells in tubules (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat kidney tissue showing apical membrane staining of cells in tubules (B). Detected with m-IgG<sub>1</sub> BP-B: sc-533660 and ImmunoCruz<sup>®</sup> ABC Kit: sc-516216.

## SELECT PRODUCT CITATIONS

- Westphal, N., et al. 2017. Nuclear fragments of the neural cell adhesion molecule NCAM with or without polysialic acid differentially regulate gene expression. *Sci. Rep.* 7: 13631.
- Pini, A., et al. 2018. Histamine H4 receptor antagonism prevents the progression of diabetic nephropathy in male DBA2/J mice. *Pharmacol. Res.* 128: 18-28.
- Smith, C.P., et al. 2019. Proximal tubule transferrin uptake is modulated by cellular iron and mediated by apical membrane megalin-cubilin complex and transferrin receptor 1. *J. Biol. Chem.* 294: 7025-7036.
- Sasaki, H., et al. 2019. Establishment of renal proximal tubule cell lines derived from the kidney of p53 knockout mice. *Cytotechnology* 71: 45-56.
- Dong, S., et al. 2020. Monitoring spatiotemporal changes in chaperone-mediated autophagy *in vivo*. *Nat. Commun.* 11: 645.
- Yamaguchi, Y., et al. 2022. Hyperthyroidism exacerbates ischemic reperfusion injury in the kidney. *Endocr. J.* 69: 263-272.
- Hassler, L., et al. 2022. A novel soluble ACE2 protein provides lung and kidney protection in mice susceptible to lethal SARS-CoV-2 infection. *J. Am. Soc. Nephrol.* E-published.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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