

# megalin (H-10): sc-515772

## 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.

## REFERENCES

1. Kounnas, M.Z., et al. 1995. Identification of glycoprotein 330 as an endocytic receptor for apolipoprotein J/clusterin. *J. Biol. Chem.* 270: 13070-13075.
2. Hammad, S.M., et al. 1997. Interaction of apolipoprotein J-amyloid  $\beta$ -peptide complex with low density lipoprotein receptor-related protein-2/megalin. A mechanism to prevent pathological accumulation of amyloid  $\beta$ -peptide. *J. Biol. Chem.* 272: 18644-18649.

## CHROMOSOMAL LOCATION

Genetic locus: LRP2 (human) mapping to 2q31.1; Lrp2 (mouse) mapping to 2 C2.

## SOURCE

megalin (H-10) 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 (H-10) is available conjugated to agarose (sc-515772 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515772 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515772 PE), fluorescein (sc-515772 FITC), Alexa Fluor® 488 (sc-515772 AF488), Alexa Fluor® 546 (sc-515772 AF546), Alexa Fluor® 594 (sc-515772 AF594) or Alexa Fluor® 647 (sc-515772 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515772 AF680) or Alexa Fluor® 790 (sc-515772 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

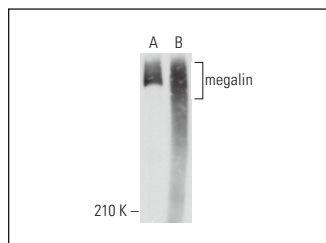
megalin (H-10) is recommended for detection of megalin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, 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 (h): sc-40103, megalin siRNA (m): sc-40104, megalin siRNA (r): sc-108041, megalin shRNA Plasmid (h): sc-40103-SH, megalin shRNA Plasmid (m): sc-40104-SH, megalin shRNA Plasmid (r): sc-108041-SH, megalin shRNA (h) Lentiviral Particles: sc-40103-V, megalin shRNA (m) Lentiviral Particles: sc-40104-V and megalin shRNA (r) Lentiviral Particles: sc-108041-V.

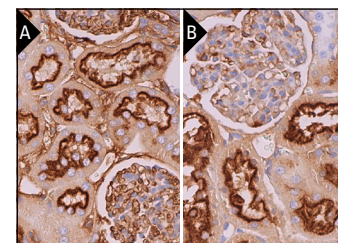
Molecular Weight of megalin: 600 kDa.

Positive Controls: rat kidney extract: sc-2394 or human fetal kidney tissue extract.

## DATA



megalin (H-10): sc-515772. Western blot analysis of megalin expression in human fetal kidney (A) and rat kidney (B) tissue extracts.



megalin (H-10): sc-515772. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse kidney tissue (A) and rat kidney tissue (B) showing cytoplasmic staining of cells in glomeruli and apical membrane and cytoplasmic staining of cells in tubules.

## SELECT PRODUCT CITATIONS

1. Marable, S.S., et al. 2018. Hnf4a deletion in the mouse kidney phenocopies Fanconi renotubular syndrome. *JCI Insight* 3: e97497.
2. Subramanian, A., et al. 2019. Single cell census of human kidney organoids shows reproducibility and diminished off-target cells after transplantation. *Nat. Commun.* 10: 5462.
3. Elsakka, E.G.E., et al. 2020. Androgen/androgen receptor affects Gentamicin-induced nephrotoxicity through regulation of megalin expression. *Life Sci.* 251: 117628.
4. Shu, S., et al. 2021. Reciprocal regulation between ER stress and autophagy in renal tubular fibrosis and apoptosis. *Cell Death Dis.* 12: 1016.
5. Lau, A., et al. 2022. Dipeptidase-1 governs renal inflammation during ischemia reperfusion injury. *Sci. Adv.* 8: eabm0142.

## RESEARCH USE

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