

## **Mouse Anti-human Megalin (Cat# 101-M144, 100µg)**

Megalin, also called Lipoprotein receptor-related protein-2 (LRP2) or glycoprotein 330, is a 600-kDa transmembrane protein belonging to the LDL-receptor family. Members of this receptor family 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 was first discovered in 1982 as the pathogenic antigen of Heymann nephritis. The complete cDNA sequences have been characterized for rat and human Megalin.

The protein contains a single transmembrane domain, is known to act as an endocytic receptor and is expressed primarily on the apical membrane domain of epithelial cells. Both the protein and its mRNA have been identified in human parathyroid cells, placental cytotrophoblasts and epididymal epithelial cells. The protein is also expressed in mammary epithelia, thyroid follicular cells, yolk sacs, the ciliary body of the eye, the intestinal brush border, the male reproductive tract, uterus and oviduct, and gallbladder epithelium. In addition, immortalised foetal rat alveolar pretype II cells, adult rat type II pneumocytes and human type II cells have all been reported to express megalin. It has been proposed that in adult lung megalin may be important in supplying vitamin E to type II pneumocytes.

Specifically, Megalin mediates the uptake of apolipoprotein J, which is a binding protein for the beta-Amyloid peptide, a peptide implicated in Alzheimer's disease. It is also involved in renal uptake of Angiotensin and the reabsorption of various molecules including calcium, vitamin B12 and vitamin D.

*Christensen et al., Am. J. Physiol. Renal. Physiol. 280, 2001; Kounnas, et al., J. Biol. Chem. 270, 1995; Farquhar et al., J. Am. Soc. Nephrol. 6, 1995; Saito A. et al, Nephrology (Carlton, Vic.) 10 Suppl, 2006; Fisher et al., Dev. Biol. 296, 2006; Zheng et al., J Histochem Cytochem. 42, 1994*

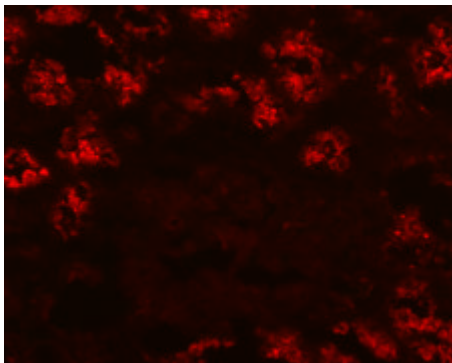


Fig. 1: Immunofluorescence staining of human kidney with Megalin.

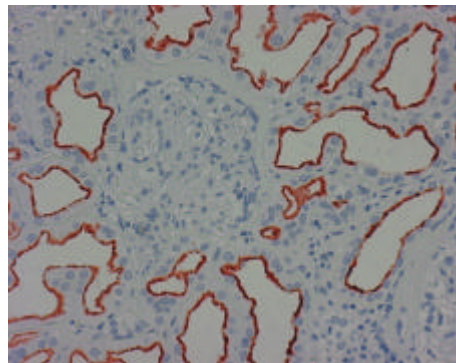


Fig. 2 Immunohistochemistry for Megalin in human kidney.

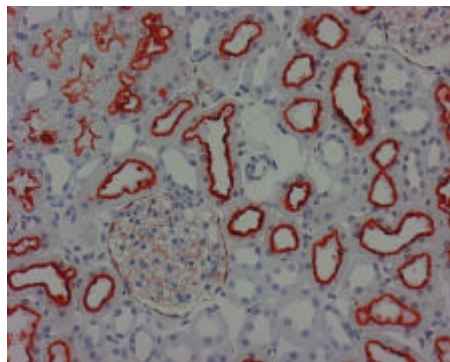


Fig. 3: Immunohistochemistry for Megalin in rat kidney.

STAINING PROTOCOL for paraffin-embedded tissue-sections fixed in formalin

### **Anti-human (rat) Megalin (#CD7D5)**

Ultra Vision LP Large Volume Detection System HRP Polymer (Ready-To-Use)  
Thermo scientific Nr. TL-125-HL

1. Deparaffinize through xylenes, ethanol, and hydrate to water.
2. Pre-treatment: in digestive enzyme: Protease XIV ( 4,5units = 86mg/70ml) in Tris-Puffer at 37°C 10 min
3. (Sigma)/TBS 10min at 37°C
4. Block in 3% hydrogen peroxide in TBS 10 min
5. Wash in buffer
6. Apply Ultra V Block and incubate 5 min at room temperature
7. Wash
8. Apply Primary Antibody **CD7D5** at a dilution of 1:500 (liquid), 1:1000 (Lyophil) in 1% BSA/PBS for 1 hour
9. Wash 4 times
10. Apply Primary Antibody Enhancer and incubate for 10 min at room temperature
11. Wash 4 times
12. Apply HRP Polymer and incubate for 15 min at room temperature in the dark ( HRP Polymer is light sensitive)
13. Wash 4 times
14. Incubate with ACE-Chromogen and stain for 5- 10 min
15. Wash 4 times in AD
16. Counter stain with Mayer's Hämalaun for 1 min
17. Cover slip using an aqueous mounting media

The protocol was established at the Clinical Institute of Pathology, Medical University Vienna in the group of Prof. Dr. Dentscho Kerjaschki.