Recombinant Human Megalin/LRP2 (C3)

Catalog Number: 9578-LR

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Glu2698-Gly3110, with a C-terminal 6-His tag Accession # P98164
N-terminal Sequence Analysis	Glu2698
Predicted Molecular Mass	47 kDa

SPECIFICATIONS

SDS-PAGE	82-95 kDa, reducing conditions
Activity	Bioassay data are not available.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>85%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity not tested

The Innovator Series. R&D Systems proteins are almost always sold with a bioassay to indicate activity. However, we recognize that sometimes proteins might be novel, and their bioactivity may not be well understood. In addition, some researchers may wish to use polypeptides to make antibodies. To facilitate the advancement of new science, we now offer our Innovator Series of proteins.

BACKGROUND

Megalin, also known as the low-density lipoprotein receptor-related protein 2 (LRP2), is a large type I transmembrane cell surface protein. This glycoprotein is a multi-ligand endocytic receptor that is expressed in many different tissues but primarily in absorptive epithilial tissues such as the kidney (1). The Megalin protein is critical for the reuptake of numerous ligands, including lipoproteins, sterols, vitamin-binding proteins, and hormones. This protein also has a role in cell-signaling. Mutations in this gene cause Donnai-Barrow Syndrome (DBS) and Facio-Oculoacoustico-Renal Syndrome (FOAR) (1). Megalin is consisting of a 25 amino acid (aa) probable N-terminal signal peptide sequence, a 4400 aa extracellular region, a 22 aa single transmembrane domain, and a 213 aa C-terminal cytoplasmic tail. The entire extracellular region is made up of 36 class A motifs of putative ligand-binding domains arranged in four distinct clusters, 16 growth factor repeats separated by 8 YWTD spacer regions, and 1 epidermal growth factor-like repeat (2). The extracellular ligand-binding-domains bind diverse macromolecules including albumin, apolipoproteins B and E, and lipoprotein lipase (3). The amino acid 2698-3110 encodes the third class A motif cluster in human Megalin, termed Megalin C3. Human Megalin C3 shares 77% and 74% identity with mouse and rat Megalin C3.

References:

1. Christensen, E. I. and Birn, H. (2002) Nat. Rev. Mol. Cell Biol **3**:256.
2. Saito, A. *et al.* (1994) Proc. Natl. Acad. Sci. U. S. A. **91**:9725
3. Kantarci, S. *et al.* (2007) Nat. Genet **39**:957.

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