

Mouse LRPAP1 / RAP Protein (His Tag)

Catalog Number: 50281-M08H



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

AA617339; AI790446; AU042172; C77774; HBP44; RAP

Protein Construction:

A DNA sequence encoding the mature form of mouse LRPAP1 (NP_038615.2) extracellular domain (Gln 29-Leu 360) was fused with a signal peptide at the N-terminus and a polyhistidine tag at the C-terminus.

Source: Mouse

Expression Host: HEK293 Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

Measured by its binding ability in a functional ELISA . Immobilized mouse LRPAP1 at 0.5 µg/ml can bind human VLDLR with a linear range of 1.28-32 ng/ml.

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Gln 29

Molecular Mass:

The recombinant mouse LRPAP1 comprises 343 amino acids with a predicted molecular mass of 40.4 kDa. As a result of glycosylation, it migrates as an approximately 46 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

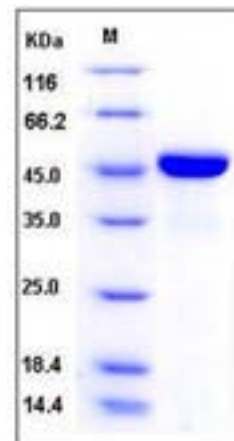
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Receptor-associated protein (RAP) is a molecular chaperone for low density lipoprotein receptor-related protein (LRP), which plays a key role in cholesterol metabolism. The lipoprotein receptor-related protein (LRP) is an endocytic receptor for several ligands, such as alpha2-macroglobulin (alpha2 M) and apolipoprotein E. LRP is involved in the clearance of lipids from the bloodstream and is expressed in the atherosclerotic plaque. The LRP-associated protein (LRPAP in humans, RAP in mice) acts as a chaperone protein, stabilizing the nascent LRP peptide in the endoplasmic reticulum and Golgi complex. Alpha-2-macroglobulin receptor-associated protein, also known as low density lipoprotein receptor-related protein-associated protein 1, RAP and LRPAP1, is a 39 kDa protein and a member of the alpha-2-MRAP family. It is a receptor antagonist that interacts with several members of the low density lipoprotein (LDL) receptor gene family. Upon binding to these receptors, LRPAP1 inhibits all ligand interactions with the receptors. LRPAP1 is present on cell surface forming a complex with the alpha-2-macroglobulin receptor heavy and light chains. It binds with LRP1B and the binding is followed by internalization and degradation. LRPAP1 interacts with LRP1/alpha-2-macroglobulin receptor and LRP2 (previously called glycoprotein 330), and may be involved in the pathogenesis of membrane glomerular nephritis. LRPAP1 together with LRP2 forms the Heymann nephritis antigenic complex. LRP2 is expressed in epithelial cells of the thyroid, where it can serve as a receptor for the protein thyroglobulin. Intron 5 insertion/deletion polymorphism of RAP gene (LRPAP1) has been implicated in other diseases sharing etiology with gallstone disease (GSD). The LRPAP1 insertion/deletion polymorphism influences cholesterol homeostasis and may confer risk for gallstone disease and gallbladder carcinoma (GBC) incidence usually parallels with the prevalence of cholelithiasis. The genetic variations at the LRPAP1 locus may modulate Alzheimer disease (AD) phenotype beyond risk for disease. In addition, the variation at the LRPAP1 gene could contribute to the risk of developing an early episode of myocardial infarction (MI).

References

1. Gonzalez P, *et al.* (2002) Variation in the lipoprotein receptor-related protein, alpha2-macroglobulin and lipoprotein receptor-associated protein genes in relation to plasma lipid levels and risk of early myocardial infarction. *Coron Artery Dis.* 13(5): 251-4.
2. Schutte DL, *et al.* (2003) A LRPAP1 intronic insertion/deletion polymorphism and phenotypic variability in Alzheimer disease. *Res Theory Nurs Pract.* 17(4): 301-19?
3. Pandey SN, *et al.* (2006) Lipoprotein receptor associated protein (LRPAP1) insertion/deletion polymorphism: association with gallbladder cancer susceptibility. *Int J Gastrointest Cancer.* 37(4): 124-8.

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