

LRPAP1

Recombinant Human RAP Stable Mutant

Catalog No.	CRH062A	Quantity:	0.5 mg
	CRH062B		1.0 mg

Alternate Names: RAP, A2MRAP, A2RAP, MRAP, HBP44

Description: Human Receptor Associated Protein (RAP) is a protein that interacts with the low density lipoprotein (LDL) receptor-related protein and facilitates its proper folding and localization by preventing the binding of ligands. The stable mutant form of human RAP is resistant to both pH and heat induced denaturation. The molecule binds to lipoprotein receptor-related protein 1 (LRP1) with high affinity and inhibits LRP1 function both in vitro and in vivo. The D3 domain of RAP, which unfolds at low pH causing dissociation from LRP1, has been stabilized with six mutations. Y260 and T297 are changed to cysteines to generate a novel disulfide bond between helices 2 and 3 whereas H257, H259, H268, and H290 are changed to phenylalanines. Human RAP Stable Mutant does not unfold at pH 5.5 and has a melting temperature of 73°C, more than 30 degrees above that of wild type RAP. It is also more resistant to trypsin and chymotrypsin mediated proteolysis.

Concentration: 2.5 mg/ml

Gene ID: 4043

Source: *E. coli*

Molecular Weight: 39 kDa

Formulation: Frozen Liquid in 0.1 M Tris-HCl + 0.15 M NaCl, pH7.4

Purity: >90% by SDS-PAGE analysis

Endotoxin Level: Contains endotoxin which might trigger signaling events.

Applications: Recombinant Human RAP Stable Mutant may be useful in multiple pathological settings where LRP1 blockade has shown to be effective.

Storage & Stability: Store at -70°C. Stable for 3 years from delivery. **Avoid repeated freeze-thaw cycles.**

Reference: Joni M. Prasad, Mary Migliorini, Rebeca Galisteo, and Dudley K. Strickland. Generation of a Potent Low Density Lipoprotein Receptor-related Protein 1 (LRP1) Antagonist by Engineering a Stable Form of the Receptor-associated Protein (RAP) D3 Domain. *J. Biol. Chem.* 290: 17262-17268, 2015.

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