

Rap 1A, N/A Recombinant Protein N/A
Rap 1A Recombinant G-Protein, G protein

BACKGROUND

Rap1A is a 21 kDa small GTP-binding protein that antagonizes the Ras transforming activity through tight binding to Ras-GAP. It interferes with Ras-dependent Raf1 activation by inhibiting binding of Ras to the cysteine-rich region of Raf1. This protein is localized in the endoplasmic reticulum, late endosomes, and lysosomes, indicating its potential role in the regulation of intracellular protein degradation. Rap1a contains a C-terminal CLLL motif for post-translational geranylgeranylation and a single site for phosphorylation by protein kinase A. Ras proteins provide a crucial link in the intracellular signalling cascades. Ras proteins are members of the small G protein family. These proteins are characterized by a molecular weight between 20 and 30 kDa, the ability to bind GTP or GDP and a low intrinsic GTPase activity. These proteins relay signals from the plasma membrane activated by receptor tyrosine kinases to the nucleus via a network of serine/threonine kinases. Ras proteins belong to a family of approximately 40 mammalian and 60 non-mammalian proteins. Ras proteins were first discovered as the hyperactive products of mutant Ras genes which promote cancer by disrupting the normal controls on cell proliferation and differentiation; about 30% of human cancers have mutations in a Ras gene.

ACTIVITY

Rap1A protein is provided as a functional G-protein and can be used as a Western blot control for antibodies to Rap1A protein or in assays to study to protein-protein interactions of Rap1A and related proteins with regulatory proteins.

PURITY

REFERENCES

1. Takai, Y., et al. 'Small GTP-binding proteins.' *Physiol. Rev.* 2001, 81, 153-208
2. McPhee, I., et al. 'Use of an activation-specific probe to show that Rap1A and Rap1B display different sensitivities to activation by forskolin in rat1 cells.' *FEBS Lett.* 2000, 477, 213-218
3. Herrmann, C., et al. 'Differential interaction of the ras family GTP-binding proteins H-Ras, Rap1A and R-Ras with the putative effector molecules Raf kinase and Ral-guanine nucleotide exchange factor.' *J. Biol. Chem.* 1996, 271, 6794-6800.

ORDERING INFORMATION

CATALOG NUMBER

X1212

SIZE

25 µg

CUSTOMER STORAGE

Product should be stored at -70°C.
Aliquot to avoid freeze/thaw cycles

FORMULATION

Provided in 50mM Tris (pH 7.5) solution containing 150 mM NaCl, 10 mM MgCl₂, 1 mM DTT, 10% glycerol

SHIP CONDITIONS

Ship on dry ice, freeze upon arrival

STABILITY

Products are stable for one year from purchase when stored properly

CONCENTRATION

See vial for concentration

SOURCE

Recombinant GST protein from E. Coli