

Recombinant Human RAC1/MIG5 Protein (GST Tag)

Catalog No. PKSH031541

Note: Centrifuge before opening to ensure complete recovery of vial contents.

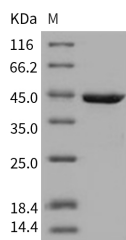
Description

Synonyms	MIG5;p21-Rac1;Rac-1;TC-25
Species	Human
Expression Host	Baculovirus-Insect Cells
Sequence	Met 1-Cys 189
Accession	NP_008839.2
Calculated Molecular Weight	47.0 kDa
Observed molecular weight	44 kDa
Tag	N-GST
Bioactivity	Not validated for activity

Properties

Purity	> 95 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per µg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile PBS, pH 7.4 Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 95 % as determined by reducing SDS-PAGE.

Background

RAC1 is a GTPase that belongs to the RAS superfamily of small GTP-binding proteins. Members of this superfamily appear to regulate a diverse array of cellular events, including the control of cell growth, cytoskeletal reorganization, and

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the activation of protein kinases. Two transcript variants encoding different isoforms have been found for RAC1 gene. RAC1 is a plasma membrane-associated small GTPase which cycles between active GTP-bound and inactive GDP-bound states. In its active state, binds to a variety of effector proteins to regulate cellular responses such as secretory processes, phagocytosis of apoptotic cells, epithelial cell polarization and growth-factor induced formation of membrane ruffles. RAC1 p21/rho GDI heterodimer is the active component of the cytosolic factor sigma 1, which is involved in stimulation of the NADPH oxidase activity in macrophage. RAC1 is essential for the SPATA13-mediated regulation of cell migration and adhesion assembly and disassembly. RAC1's isoform B has an accelerated GEF-independent GDP/GTP exchange and an impaired GTP hydrolysis, which is restored partially by GTPase-activating proteins. It is able to bind to the GTPase-binding domain of PAK but not full-length PAK in a GTP-dependent manner, suggesting that the insertion does not completely abolish effector interaction.