

Datasheet for ABIN7505002

**RAC1 Protein (AA 1-189) (His tag)**[Go to Product page](#)

## Overview

Quantity:	100 µg
Target:	RAC1
Protein Characteristics:	AA 1-189
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Purification tag / Conjugate:	This RAC1 protein is labelled with His tag.

## Product Details

Sequence:	Met1-Cys189
Characteristics:	A DNA sequence encoding the Human Rac1 protein (P63000) (Met1-Cys189) was expressed with a N-His.
Purity:	> 90 % as determined by reducing SDS-PAGE.

## Target Details

Target:	RAC1
Abstract:	<a href="#">RAC1 Products</a>
Background:	Abbreviation: Rac1 Target Synonym: Cell migration-inducing gene 5 protein, Ras-like protein TC25, p21-Rac1 Background: 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

## Target Details

to regulate cellular responses such as secretory processes, phagocytosis of apoptotic cells, epithelial cell polarization, neurons adhesion, migration and differentiation, 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 macrophages. Essential for the SPATA13-mediated regulation of cell migration and adhesion assembly and disassembly, In concert with RAB7A, plays a role in regulating the formation of RBs (ruffled borders) in osteoclasts. Required for atypical chemokine receptor ACKR2-induced LIMK1-PAK1-dependent phosphorylation of cofilin (CFL1) and for up-regulation of ACKR2 from endosomal compartment to cell membrane, increasing its efficiency in chemokine uptake and degradation. In neurons, is involved in dendritic spine formation and synaptic plasticity. In hippocampal neurons, involved in spine morphogenesis and synapse formation, through local activation at synapses by guanine nucleotide exchange factors (GEFs), such as ARHGEF6/ARHGEF7/PIX. In synapses, seems to mediate the regulation of F-actin cluster formation performed by SHANK3. In neurons, plays a crucial role in regulating GABA(A) receptor synaptic stability and hence GABAergic inhibitory synaptic transmission through its role in PAK1 activation and eventually F-actin stabilization.

Molecular Weight: Calculated MW: 21.1 kDa  
Observed MW: 27 kDa

UniProt: [P63000](#)

Pathways: [WNT Signaling](#), [Regulation of Actin Filament Polymerization](#), [Cell-Cell Junction Organization](#), [Thromboxane A2 Receptor Signaling](#), [VEGF Signaling](#)

## Application Details

Restrictions: For Research Use only

## Handling

Format: Lyophilized

Buffer: Lyophilized from sterile PBS, pH 7.4.  
Normally 5 % - 8 % trehalose, mannitol and 0.01 % Tween80 are added as protectants before lyophilization.

Storage: 4 °C,-20 °C,-80 °C

Storage Comment: 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

Handling

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samples are stable at < -20°C for 3 months.

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Expiry Date: 12 months