

# Human RAC1, C-Flag Tag Protein

HA210758



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| <b>Product name:</b>                     | Human RAC1, C-Flag Tag   |
| <b>Species reactivity:</b>               | Human  |
| <b>Bio-Activity:</b>                     | Testing in progress.   |
| <b>Protein construction description:</b> | A DNA sequence encoding the human RAC1 protein (P63000-1) (Met 1-Leu 192) was expressed with a Flag tag at the C-terminus. |

**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 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. Stimulates PKN2 kinase activity. In podocytes, promotes nuclear shuttling of NR3C2; this modulation is required for a proper kidney functioning. 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 (By similarity). 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.

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| <b>Purity:</b>                   | >95% as determined by SDS-PAGE.  |
| <b>Endotoxin:</b>                | Less than 1.0 EU per µg by the LAL method.   |
| <b>Fragment region:</b>          | RAC1 (1-192)   |
| <b>Source:</b>                   | E.coli   |
| <b>Accession:</b>                | P63000-1   |
| <b>Predicted molecular mass:</b> | 23.1 kD  |
| <b>Formulation:</b>              | Lyophilized from a 0.2 µm filtered solution of PBS, pH7.4, 5% Trehalose, 5% mannitol.  |
| <b>Reconstitution:</b>           | Reconstitute at 250 µg/ml in sterile water.  |
| <b>Storage:</b>                  | Please avoid repeated freeze-thaw cycles. Samples are stable for up to twelve months from date of receipt at -20°C to -80°C. It is recommended that aliquot the reconstituted solution to minimize freeze-thaw cycles. |

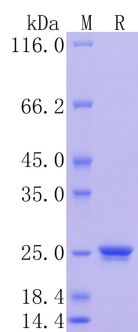
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**Fig1:** Protein on SDS-PAGE under reducing (R) condition.

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