

## Active Recombinant Human RHOA, His-tagged

Cat. No. RHOA-179H    Lot. No. (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <b>Product Overview</b> | The human RhoA protein has been produced in a bacterial expression system. The recombinant protein is approximately 28 kDa, consisting of the RhoA protein plus a histidine tag in the amino-terminus.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Description</b>      | Ras homolog gene family, member A (RhoA) is a small GTPase protein known to regulate the actin cytoskeleton in the formation of stress fibers. In humans, it is encoded by the gene RHOA. It primarily acts upon two known effector proteins: ROCK1 (Rho-associated, coiled-coil containing protein kinase 1) and DIAPH1 (diaphanous homolog 1 (Drosophila)). RhoA is part of a larger family of related proteins known as the Ras superfamily, a family of proteins involved in the regulation and timing of cell division. RhoA specifically is regarded as a prominent regulatory factor in other functions such as the regulation of cytoskeletal dynamics, transcription, cell cycle progression and cell transformation. |
| <b>Form</b>             | The protein is supplied as a lyophilized powder.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Bio-activity</b>     | The biological activity of His-RhoA is determined from its ability to catalyze the exchange of GDP for GTP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Purity</b>           | Purity is determined by scanning densitometry of Coomassie Blue stained protein on a 4-20% polyacrylamide gradient gel. His-RhoA protein was determined to be 90%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | pure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Storage</b>          | In order to maintain high biological activity of the protein it is strongly recommended that the protein solution be supplemented with DTT to 1 mM final concentration, aliquoted into "experiment sized" amounts, snap frozen in liquid nitrogen and stored at -70°C. The protein is stable for six months if stored at -70°C. The protein must not be exposed to repeated freeze-thaw cycles. The lyophilized protein is stable at 4°C desiccated (<10% humidity) for one year. |
| <b>Reconstitution</b>   | The protein should be reconstituted to 5 mg/ml with Milli-Q water (2 µl water per 10 µg protein). Before reconstitution, briefly centrifuge to collect the product at the bottom of the tube. When reconstituted, the protein will be in the following buffer: 2 mM Tris pH 7.6, 0.5 mM MgCl <sub>2</sub> , 0.5% (w/v) sucrose and 0.1% (w/v) dextran.                                                                                                                            |
| <b>GENE INFORMATION</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Gene Name</b>        | RHOA ras homolog gene family, member A [ Homo sapiens ]                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Official Symbol</b>  | RHOA                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Synonyms</b>         | RHOA; ras homolog gene family, member A; ARHA; ARH12; RHO12; RHOH12; oncogene RHO H12; Aplysia ras-related homolog 12; small GTP binding protein RhoA                                                                                                                                                                                                                                                                                                                             |
| <b>Gene ID</b>          | 387                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>mRNA Refseq</b>      | NM_001664                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Protein Refseq</b>   | NP_001655                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>MIM</b>              | 165390                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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|----------------------------|------------------------------------------------------------------------------------------------|
| <b>UniProt ID</b>          | P61586                                                                                         |
| <b>Chromosome Location</b> | 3p21.3                                                                                         |
| <b>Pathway</b>             | AGE/RAGE pathway; Alpha6-Beta4 Integrin Signaling Pathway; Androgen receptor signaling pathway |
| <b>Function</b>            | GTP binding; GTPase activity; myosin binding                                                   |

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