RAC2 Protein, Human (His)

Cat. No.:	HY-P74607
Synonyms:	Ras-related C3 botulinum toxin substrate 2; GX; Small G protein; p21-Rac2
Species:	Human
Source:	E. coli
Accession:	P15153 (M1-C189)
Gene ID:	5880
Molecular Weight:	Approximately 25 kDa

PROPERTIES

AA Sequence	M Q A I K C V V V G D G A V G K T C L L I S Y T T N A F P G E Y I P T V F D N Y S A N V M V D S K P V N L G L W D T A G Q E D Y D R L R P L S Y P Q T D V F L I C F S L V S P A S Y E N V R A K W F P E V R H H C P S T P I I L V G T K L D L R D D K D T I E K L K E K K L A P I T Y P Q G L A L A K E I D S V K Y L E C S A L T Q R G L K T V F D E A I R A V L C P Q P T R Q Q K R A C
Biological Activity	The specific activity was determined to be 8.58 nmol/min/mg in a GTPase-Glo assay using GTP solution substrate.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The RAC2 Protein, a plasma membrane-associated small GTPase, dynamically cycles between its active GTP-bound and inactive GDP-bound states, exerting pivotal regulatory control over various cellular responses. In its active state, RAC2 binds to diverse effector proteins, modulating processes such as secretory functions, phagocytosis of apoptotic cells, and epithelial cell polarization. Notably, RAC2 plays a crucial role in augmenting the production of reactive oxygen species (ROS) by NADPH oxidase. Its activity is intricately regulated by guanine nucleotide exchange factors (GEFs), facilitating the

exchange of bound GDP for free GTP, GTPase-activating proteins (GAPs), which enhance GTP hydrolysis activity, and GDP dissociation inhibitors, which inhibit the dissociation of nucleotides from the GTPase. These regulatory mechanisms highlight the dynamic nature of RAC2 in orchestrating cellular processes and underscore its significance in the intricate balance of signaling cascades within the cell.

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