

Recombinant Human PREX2 Protein, Myc/DDK-tagged, C13 and N15-labeled

Cat. No. PREX2-6179H Lot. No. (See product label)

SPECIFICATION

Product Overview

PREX2 MS Standard C13 and N15-labeled recombinant protein (NP_079146) with a C-terminal MYC/DDK tag, was expressed in HEK293 cells.

Species

Human

Source

HEK293

Description

The protein encoded by this gene belongs to the phosphatidylinositol 3,4,5-trisphosphate (PIP3)-dependent Rac exchanger (PREX) family, which are Dbl-type guanine-nucleotide exchange factors for Rac family small G proteins. Structural domains of this protein include the catalytic diffuse B-cell lymphoma homology and pleckstrin homology (DHPH) domain, two disheveled, EGL-10, and pleckstrin homology (DEP) domains, two PDZ domains, and a C-terminal inositol polyphosphate-4 phosphatase (IP4P) domain that is found in one of the isoforms. This protein facilitates the exchange of GDP for GTP on Rac1, allowing the GTP-bound Rac1 to activate downstream effectors. Studies also show that the pleckstrin homology domain of this protein interacts with the phosphatase and tensin homolog (PTEN) gene product to inhibit PTEN phosphatase activity, thus activating the phosphoinositide-3 kinase (PI3K) signaling pathway. Conversely, the PTEN gene product has also been shown to inhibit the GEF activity of this protein. This gene plays a role in insulin-signaling pathways, and either mutations or overexpression of this gene have been observed in some cancers.

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

Molecular Mass

182.4 kDa

AA Sequence

MSEDSRGDSRAESAKDLEKQLRLRVCVLSELQKTERDYVGTLEFLVSAFLHRMNQC
 AASKVDKNVTEETVKMLFSNIEDILAVHKEFLKVVEECLHPEPNAQQEVGTCFLHFK
 DKFRIYDEYCSNHEKAQKLLLELNKIRTIRTFLLNCMLLGGRKNTDVPLEGYLVTPIQR
 ICKYPLILKELLKRTPRKHSDYAAVMEALQAMKAVCSNINEAKRQMEKLEVLEEWQS
 HIEGWEGSNITDTCTEMLMCGVLLKISSGNIQERVFFLFDNLLVYCKRKHRRLKNSKA
 STDGHRYLFRGRINTEVMEVENVDDGTADFHSSGHIVVNGWKIHNTAKNKWFVCM
 AKTPEEKHEWFEAILKERERRKGLKLGMEQDTWVMISEQGEKLYKMMCRQGNLIKD
 RKRKLTTFPKCFLGSEFVSWLLEIGEIHRRPEEGVHLGQALLENGIIHHVTDKHQFKPE
 QMLYRFRYDDGTFYPRNEMQDVISKGVRLYCRHLSTFTPVIRDKDYHLRTYKSVVM
 ANKLIDWLIAQGD CRTREEAMIFGVGLCDNGFMHHVLEKSEFKDEPLLFRFFSDEEM
 EGSNMKHRMLMKHDLKVVENVIKSLIKSNEGSYGFGLLEDKNKVPIIKLVEKGSNAEM
 AGMEVGKKIFAINGDLVFM RPFNEVDCFLKSCLSNRKPLRVLVSTKPRETVKIPDSAD
 GLGFQIRGFGPSVVHAVGRGTVAAGLHPGQCIIKVNGINVSKEHATHASVIAHVTAC
 RKYRRPTKQDSIQWVYNSIESAQEDLQKSHSKPPGDEAGDAFDCKVEEVIDKFNTM
 AIIDGKKEHVSLTVDNVHLEYGVVYEYDSTAGIKCNVVEKMIEPKGFFSLTAKILEALA
 KSDEHFVQNCTSLNSLNEVIPTDLQSKFSALCSERIEHLCQRISYKFKFSRVLKNRAW
 PTFKQAKSKISPLHSSDFCPTNCHVNVMEVSYPKTSTSLGSAFGVQLDSRKHN SHD
 KENKSSEQGLSPMVYIQTITTMAAPSGLSLGGQDGHGLRYLLKEEDLETQDIYQK
 LLGKLQTALKEVEMCVCQIDDLSSITYSPKLERKTSEGIPTDSDNEKGERN SKRVC
 FNVAGDEQEDSGHDTISNRDSYSDCNSNRNSIASFTSICSSQCSSYFHSDEMDSGD
 ELPLSVRISHDKQDKIHSCLEHLFSQVDSITNLLKGQAVVRAFDQTKYLTPGRGLQEF
 QQEMEPKLSCPKRLRLHIKQDPWNLPSVVRTLAQNIRKFVEEVKCRLLLALLEYS DS
 ETQLRRDMVFCQTLVATVCAFSEQLMAALNQMF DNSKENEMETWEASRRWLDQIA
 NAGVLFHFQSLLSPNLTDEQAMLEDTLVALFDLEKVSFYFKPSEEEPLVANVPLTYQ
 AEGSRQALKVYFYIDSYHFEQLPQRLKNGGGFKIHPVLFAQALESMEGYYYRDNVS
 VEEFQAQINAASLEKVKQYNQKLRAFYLDKSNSPPNSTSKAAYVDKLMRPLNALDEL
 YRLVASFIRSKRTAACANTACSASGVGLLSVSSEL CNRLGACHIIMCSSGVHRCTLS
 VTLEQAAILARSHGLPPRYIMQATDVMRKQGARVQNTAKNLGVRDRTPQSAPRLYKL

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CEPPPPAGEETRTRPLEQKLISEEDLAANDILDYKDDDDKV

Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 3 months from receipt of products under proper storage and handling conditions.
Storage	Store at -80 centigrade. Avoid repeated freeze-thaw cycles.
Concentration	50 µg/mL as determined by BCA
Storage Buffer	100 mM glycine, 25 mM Tris-HCl, pH 7.3.

GENE INFORMATION

Gene Name	PREX2 phosphatidylinositol-3,4,5-trisphosphate dependent Rac exchange factor 2 [Homo sapiens (human)]
Official Symbol	PREX2
Synonyms	PREX2; phosphatidylinositol-3,4,5-trisphosphate dependent Rac exchange factor 2; DEP.2; DEPDC2; P-REX2; PPP1R129; phosphatidylinositol 3,4,5-trisphosphate-dependent Rac exchanger 2 protein; DEP domain-containing protein 2; PtdIns(3,4,5)-dependent Rac exchanger 2; protein phosphatase 1, regulatory subunit 129
Gene ID	80243
mRNA Refseq	NM_024870
Protein Refseq	NP_079146

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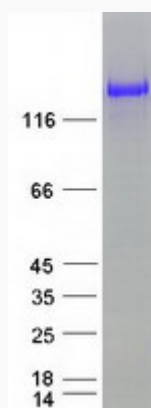
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MIM 612139

UniProt ID Q70Z35

SDS-PAGE



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