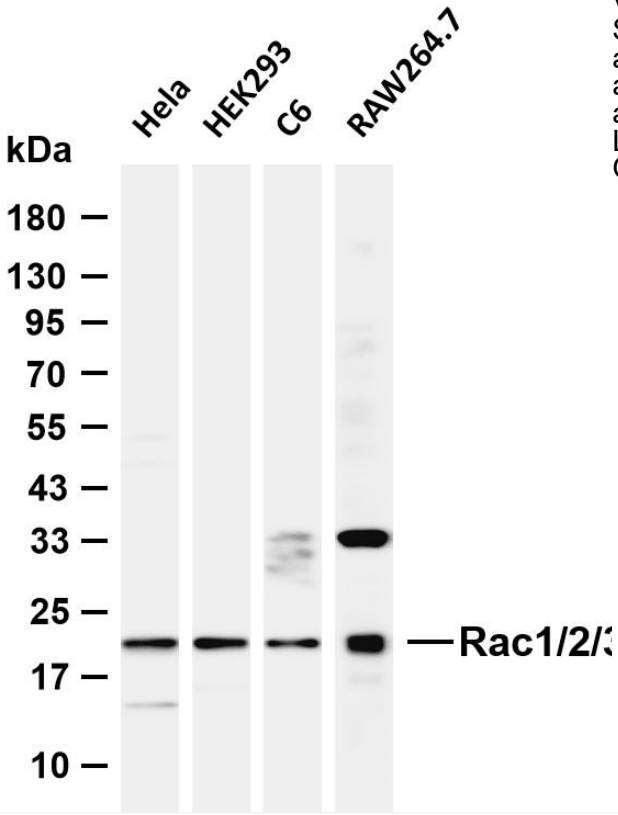
Rac1/2/3 Rabbit mAb

Catalog No	YP-rAb-17066
Isotype	IgG
Reactivity	Human,Mouse,Rat
Applications	WB,IHC,IF,ELISA
Gene Name	Rac1/2/3
Protein Name	Ras-related C3 botulinum toxin substrate 1/Ras-related C3 botulinum toxin substrate 2/Ras-related C3 botulinum toxin substrate 3
Purification Process	Protein A
Specificity	Endogenous
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA
Source	Monoclonal, Rabbit,IgG
Dilution	IHC 1:200-1:1000; WB 1:2000-1:10000; IF 1:200-1:1000; ELISA 1:5000-1:20000; Note: For IHC, we suggest antigen retrieval with TE buffer pH 9.0
Concentration	0.5 mg/ml
Purity	≥90%
Storage Stability	-15° C to -25° C/1 year(Do not lower than -25° C)
Synonyms	RAC1 ; TC25 ; MIG5 ; Ras-related C3 botulinum toxin substrate 1 ; Cell migration-inducing gene 5 protein ; Ras-like protein TC25 ; p21-Rac1 ; RAC2 ; Ras-related C3 botulinum toxin substrate 2 ; GX ; Small G protein ; p21-Rac2 ; RAC3 ; Ras-related C3 botulinum toxin substrate 3
Observed Band	21kD
Calculated Molecular Weight	21kD
Cell Pathway	Cell membrane ; Lipid-anchor ; Cytoplasmic side . Melanosome . Cytoplasm . Cell projection, lamellipodium . Cell projection, dendrite . Cell junction, synapse . Nucleus . Inner surface of plasma membrane possibly with attachment requiring prenylation of the C-terminal cysteine (PubMed:1903399). Identified by mass spectrometry in melanosome fractions from stage I to stage IV (PubMed:17081065). Found in the ruffled border (a late endosomal-like compartment in the plasma membrane) of bone-resorbing osteoclasts. Localizes to the lamellipodium in a SH3RF1-dependent manner (By similarity). In macrophages, cytoplasmic location increases upon CSF1 stimulation (By similarity). Activation by GTP-binding promotes nuclear localization (PubMed:12551911). .
Tissue Specificity	Isoform B is predominantly identified in skin and epithelial tissues from the intestinal tract. Its expression is elevated in colorectal tumors at various stages of

	neoplastic progression, as compared to their respective adjacent tissues.
Function	Domain:The effector region mediates interaction with DEF6.,enzyme regulation:Regulated by guanine nucleotide exchange factors (GEFs) which promote the exchange of bound GDP for free GTP, GTPase activating proteins (GAPs) which increase the GTP hydrolysis activity, and GDP dissociation inhibitors which inhibit the dissociation of the nucleotide from the GTPase.,Function:Isoform B has an accelerated GEF-independent GDP/GTP exchange and an impaired GTP hydrolysis, which is restored partially by GTPase-activating proteins. It is able to bind to the GTPase-binding domain of PAK but not full-length PAK in a GTP-dependent manner, suggesting that the insertion does not completely abolish effector interaction.,Function: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 and growth-factor induced formation of membrane ruffles.,similarity:Belongs to the small GTPase superfamily. Rho family.,subcellular location:Inner surface of plasma membrane possibly with attachment requiring prenylation of the C-terminal cysteine (By similarity). Identified by mass spectrometry in melanosome fractions from stage I to stage IV.,subunit:Interacts with the GEF proteins PREX1, RASGRF2, DOCK1, DOCK2 and DOCK7, which promote the exchange between GDP and GTP, and therefore activate it. Interacts with PARD6A, PARD6B and PARD6G in a GTP-dependent manner. Part of a quaternary complex containing PARD3, some PARD6 protein (PARD6A, PARD6B or PARD6G) and some atypical PKC protein (PRKCI or PRKCZ), which plays a central role in epithelial cell polarization. Found in a trimeric complex composed of DOCK1 and ELMO1, which plays a central role in phagocytosis of apoptotic cells. Interacts with RALBP1 via its effector domain. Interacts with PLXNB1. Part of a complex with MAP2K3, MAP3K3, CCM2 and DEF6. Interacts with BAIAP2, BAIAP2L1, CYFIP1/SRA-1 and DEF6. Interacts with Y.pseudotuberculosis YPKA and PLCB2. Interacts with NOXA1. Interacts with ARHGEF2. Interacts with NISCH.,tissue specificity:Isoform B is predominantly identified in skin and epithelial tissues from the intestinal tract. The expression of isoform B is elevated in colorectal tumors at various stages of neoplastic progression, as compared to their respective adjacent tissues.,
Background	The protein encoded by this gene is a GTPase which belongs to the RAS superfamily of small GTP-binding proteins. Members of this superfamily appear to regulate a diverse array of cellular events, including the control of cell growth, cytoskeletal reorganization, and the activation of protein kinases. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Mar 2009],
matters needing attention	Avoid repeated freezing and thawing!
Usage suggestions	This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.



Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-Rac1/2/3 antibody. The HRP-conjugated Goat anti-Rabbit IgG (H + L) antibody was used to detect the antibody. Lane 1: Hela Lane 2: HEK293 Lane 3: C6 Lane 4: RAW264.7 Predicted band size: 21kDa Observed band size: 21kDa