

# Rap1A/Rap1B Antibody



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk B	Endogenous	21	Rabbit	#P62834, #P61224	5906, 5908

## Product Usage Information

### Application

Western Blotting

### Dilution

1:1000

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

## Specificity/Sensitivity

Rap1 Antibody detects endogenous levels of total Rap1A and Rap1B protein. This antibody does not cross-react with Rap2 and other Ras-related proteins.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gln130 of human Rap1A. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

Rap1 and Rap2 belong to the Ras subfamily of small GTPases and are activated by a wide variety of stimuli through integrins, receptor tyrosine kinases (RTKs), G-protein coupled receptors (GPCR), death domain associated receptors (DD-R) and ion channels (1,2). Like other small GTPases, Rap activity is stimulated by guanine nucleotide exchange factors (GEF) and inactivated by GTPase activating proteins (GAP). A wide variety of Rap GEFs have been identified: C3G connects Rap1 with RTKs through adaptor proteins such as Crk, Epacs (or cAMP-GEFs) transmit signals from cAMP, and CD-GEFs (or CalDAG-GEFs) convey signals from either or both Ca<sup>2+</sup> and DAG (1). Rap1 primarily regulates multiple integrin-dependent processes such as morphogenesis, cell-cell adhesion, hematopoiesis, leukocyte migration and tumor invasion (1,2). Rap1 may also regulate proliferation, differentiation and survival through downstream effectors including B-Raf, PI3K, RalGEF and phospholipases (PLCs) (1-4). Rap1 and Rap2 are not functionally redundant as they perform overlapping but distinct functions (5). Recent research indicates that Rap2 regulates Dsh subcellular localization and is required for Wnt signaling in early development (6).

## Background References

1. Bos, J. et al. (2001) *Nat. Rev. Mol. Cell Biol.* 2, 369-377.
2. Caron, E. (2003) *J. Cell Sci.* 116, 435-440.
3. Song, C. et al. (2002) *Oncogene* 21, 8105-8113.
4. Rong, R. et al. (2003) *J Biol Chem* 278, 52497-503.
5. Taira, K. et al. (2004) *J. Biol. Chem.* 279, 49488-49496.
6. Choi, S. and Han, J. (2005) *EMBO J.* 24, 985-996.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

## Applications Key

**W:** Western Blotting

## Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey **B:** Bovine

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