

Technical Data Sheet

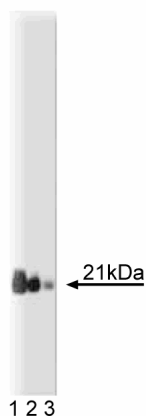
Purified Mouse Anti-Rap1**Product Information**

Material Number:	610195
Size:	50 µg
Concentration:	250 µg/ml
Clone:	3/Rap1
Immunogen:	Human Rap1 aa. 1-184
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Chicken, Frog, Mouse, Rat
Target MW:	21 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

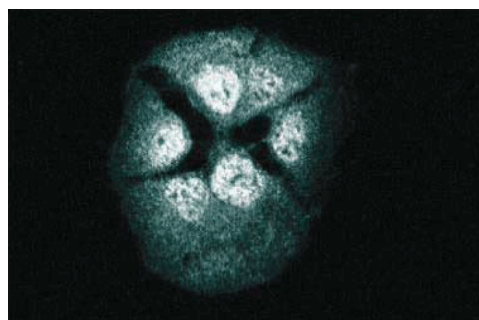
Description

Rap1 is a member of the large Ras superfamily of low molecular weight GTP/GDP binding proteins. Like Ras, the Rap proteins cycle between a GDP-bound inactive form and a GTP-bound active form. Since Ras and Rap have the same amino acid sequence in their putative effector domain (aa. 32-40), it seems likely that they perform either similar or antagonistic functions. Rap1A and Rap1B are highly homologous proteins, differing in only 9 of their 184 amino acids. Overexpression of Rap1A (also known as Krev-1) causes reversion of the phenotype of a Ki-Ras-transformed cell line. In vitro, Rap1 can compete efficiently with p21ras for interaction with Ras-GAP. Though they appear to have similar activities, Rap1 and Ras differ in their cellular localization. Ras is found on the inner surface of the plasma membrane while Rap1 is associated with the Golgi.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



Western blot analysis of Rap1 on a Jurkat cell lysate.
Lane 1: 1:500, lane 2: 1:1000, lane 3: 1:2000 dilution of the anti-Rap1 antibody.



Immunofluorescence staining of A431 cells.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. Store undiluted at -20° C.

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development
Immunohistochemistry-formalin (antigen retrieval required)	Tested During Development
Immunoprecipitation	Tested During Development

Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Igs	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Larson MK, Chen H, Kahn ML, et al. Identification of P2Y₁₂-dependent and -independent mechanisms of glycoprotein VI-mediated Rap1 activation in platelets. *Blood*. 2003; 101(4):1409-1415.(Biology: Western blot)

Okada S, Pessin JE. Insulin and epidermal growth factor stimulate a conformational change in Rap1 and dissociation of the CrkII-C3G complex. *J Biol Chem*. 1997; 272(45):28179-28182.(Biology: Immunoprecipitation, Western blot)

Wu C, Lai CF, Mobley WC. Nerve growth factor activates persistent Rap1 signaling in endosomes. *J Neurosci*. 2001; 21(15):5406-5416.(Biology: Immunofluorescence, Western blot)

Xing L, Ge C, Zeltser R, Maskevitch G, Mayer BJ, Alexandropoulos K. c-Src signaling induced by the adapters Sin and Cas is mediated by Rap1 GTPase. *Mol Cell Biol*. 2000; 20(19):7363-7377.(Biology: Western blot)

Yamamoto T, Kaibuchi K, Mizuno T, Hiroyoshi M, Shirataki H, Takai Y. Purification and characterization from bovine brain cytosol of proteins that regulate the GDP/GTP exchange reaction of smg p21s, ras p21-like GTP-binding proteins. *J Biol Chem*. 1990; 265(27):16626-16634.(Biology)