Technical Data Sheet

Purified Mouse Anti-SPA-1

Product Information

Material Number:	**611214**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	3/SPA-1
Immunogen:	Human SPA-1 aa. 911-1027
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Rat Tested in Development: Mouse, Human
Target MW:	130 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Trafficking of immune cells is essential for the development of an effective immune response. Immunocompetent lymphocytes recirculate through lymphoid tissues "in search of" their corresponding specific antigen. Antigen encounter triggers signaling cascades that result in gene activation and clonal expansion. Central to this process is the activation of Ras which is mediated by the conversion of GTP to GDP and involves multiple Ras GTPase-activating proteins (GAPs). Rap1, a member of the Ras family of GTPases, functions to inhibit the Ras-MAP kinase pathway. A GAP specific for Rap1, rap1GAP, has been identified in human brain. However, this GAP exhibits little expression in lymphoid tissues where elevated Rap1 is detected. SPA-1 exhibits a specific GAP activity for Rap1 and Rap2. It is highly expressed in lymphocytes and minimally expressed in tissues such as brain, kidney, and pancreas where abundant rap1GAP is detected. Human and mouse SPA-1 are 90% identical and contain proline-rich regions and a rap1GAP-related domain followed by a coiled-coil region. Thus, SPA-1 is a Rap specific GAP that functions with rap1GAP to regulate Rap1 and Ras mediated signaling.

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

Western blot analysis of SPA-1 on a rat spleen lysate. *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of the mouse anti- SPA-1 antibody.*

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

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
611471	Rat Spleen Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	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

Hattori M, Tsukamoto N, Nur-e-Kamal MS. Molecular cloning of a novel mitogen-inducible nuclear protein with a Ran GTPase-activating domain that affects cell cycle progression. *Mol Cell Biol.* 1995; 15(1):552-560.(Biology)

Kurachi H, Wada Y, Tsukamoto N. Human SPA-1 gene product selectively expressed in lymphoid tissues is a specific GTPase-activating protein for Rap1 and Rap2. Segregate expression profiles from a rap1GAP gene product. *J Biol Chem.* 1997; 272(44):28081-28288.(Biology)