Datasheet for ABIN2192013

anti-ARHGEF2 antibody

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Overview

Quantity:	100 µg
Target:	ARHGEF2
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This ARHGEF2 antibody is un-conjugated
Application:	Western Blotting (WB), Flow Cytometry (FACS)

Product Details

Clone:	B4-7
Isotype:	IgG1
Cross-Reactivity (Details):	Cross reactivity: Canine : Yes, Mouse (=Lfc) : Yes
Sterility:	0.2 µm filtered

Target Details

Target:	ARHGEF2
Alternative Name:	Guanine Nucleotide Exchange Factor h1 (ARHGEF2 Products)
Background:	The monoclonal antibody B4/7 recognizes human and canine guanine nucleotide exchange factor H1 (GEF-H1). GEFH1 is an ~110 kDa protein belonging to the Dbl family of proto-oncogenes. GEF-H1 can activate the small GTPase RhoA, but not Rac1 or Cdc42. Rho family GTPases are central regulators of epithelial tight junctions and the cytoskeleton. GEF-H1 can

Target Details

	associate with different cytoskeletal structures, namely microtubules and the actin cytoskeleton. It has also been proposed to mediate crosstalk between the two types of filaments. Localization of GEF-H1 differs between cell types. In MRC-5 fibroblast cells, GEF-H1 localizes to stress fibers. In epithelial cells, GEF-H1 is associated with apical tight junctions and involved in regulating paracellular permeability of small hydrophilic tracers. Furthermore, its subcellular localization changes in mitotic cells, where endogenous GEF-H1 is concentrated at mitotic spindles. GEF-H1 is capable of binding to the F-actin binding junctional adaptor cingulin. Binding to cingulin inhibits GEF-H1 and results in the downregulation of RhoA and inhibition of G1/S phase transition. In low confluent cultured cells, the localization of GEF-H1 is predominantly cytoplasmic. With increasing density of the cells, free GEF-H1 is sequestered at the tight junctions by cingulin. GEF-H1 is part of the signaling pathway connecting epithelial polarity with the cell cycle, and as such involved in oncogenesis. Aliases Rho guanine nucleotide exchange factor 2 (ARHGEF2), Microtubule-regulated Rho-GEF, Proliferating cell nucleolar antigen p40, KIAA0651, LFP40 1 Immunogen protein fraction isolated from detergent extracts of MDCK cells .
Pathways:	Negative Regulation of intrinsic apoptotic Signaling

Application Details

Application Notes:	For immunohistochemistry and Western blotting, dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50. 1
Restrictions:	For Research Use only

Handling

Buffer:	PBS, containing 0.1 % bovine serum albumin and 0.02 % sodium azide.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	4 °C
Storage Comment:	Product should be stored at 4 °C. Under recommended storage conditions, product is stable for at least one year. The exact expiry date is indicated on the label.

Publications

Product cited in:

Tonami, Kurihara, Arima, Nishiyama, Uchijima, Asano, Sorimachi, Kurihara: "Calpain-6, a microtubule-stabilizing protein, regulates Rac1 activity and cell motility through interaction with GEF-H1." in: **Journal of cell science**, Vol. 124, Issue Pt 8, pp. 1214-23, (2011) (PubMed).

Saito, Murata-Kamiya, Hirayama, Ohba, Hatakeyama: "Conversion of Helicobacter pylori CagA from senescence inducer to oncogenic driver through polarity-dependent regulation of p21." in: **The Journal of experimental medicine**, Vol. 207, Issue 10, pp. 2157-74, (2010) (PubMed).

Aijaz, DAtri, Citi, Balda, Matter: "Binding of GEF-H1 to the tight junction-associated adaptor cingulin results in inhibition of Rho signaling and G1/S phase transition." in: **Developmental cell**, Vol. 8, Issue 5, pp. 777-86, (2005) (PubMed).

Benais-Pont, Punn, Flores-Maldonado, Eckert, Raposo, Fleming, Cereijido, Balda, Matter: " Identification of a tight junction-associated guanine nucleotide exchange factor that activates Rho and regulates paracellular permeability." in: **The Journal of cell biology**, Vol. 160, Issue 5, pp. 729-40, (2003) (PubMed).