

CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	GEF-H1, Human, clone B4/7		
Catalog number	HM2152-20UG		
Lot number	-	Expiry date	-
Volume	200 µl	Amount	20 µg
Formulation	0.2 µm filtered in PBS+0.1%BSA+0.02%NaN ₃	Concentration	100 µg/ml
Host Species	Mouse IgG1	Conjugate	None
Endotoxin	N.A.	Purification	Protein G
Storage	4°C		

Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #	1		1-4				1-3	1-4
Yes	•		•				•	•
No								
N.D.		•		•	•	•		

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot

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.

- W: A non-reduced and/or reduced sample treatment and 6-15 % gradient SDS-PAGE was used. The band size is 110 kDa (Ref1-3).
- F: Cells were either fixed with methanol at -20 °C or with 3% PFA followed by permeabilization with Triton X-100
- Positive control: MDCK cells

General Information

Description	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 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.
Immunogen	protein fraction isolated from detergent extracts of MDCK cells (Ref.1).
Aliases	Rho guanine nucleotide exchange factor 2 (ARHGEF2), Microtubule-regulated Rho-GEF, Proliferating cell nucleolar antigen p40; KIAA0651; LFP40; Guanine nucleotide exchange factor H1
Cross reactivity	Canine: Yes; Mouse (=Lfc): Yes.
References	- Benais-Pont, G et al; Identification of a tight junction-associated guanine nucleotide exchange factor that activates Rho and regulates paracellular permeability. J Cell Biol 2003, 160: 729 - Aijaz, S et al; Binding of GEF-H1 to the tight junction-associated adaptor cingulin results in inhibition of Rho signalling and G1/S phase transition. Dev Cell 2005, 8: 777 - Saito, Y et al; Conversion of <i>Helicobacter pylori</i> CagA from senescence inducer to oncogenic driver through polarity-dependent regulation of p21. J Exp Med 2010, 207: 2157 - Tonami,K et al. Calpain-6, a microtubule-stabilizing protein. Regulates Rac1 activity and cell motility through interaction with GEF-H1. J of Cell science 2011, 124:1214-1223
Storage&stability	Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.

Precautions

For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

Approved by Manager of QC
Brenda Teunissen

Date
14/07/2021

Do you have any questions or comments regarding this product? Please contact us via support@hycultbiotech.com.