# Rabex-5 (h): 293T Lysate: sc-113412



The Power to Question

#### **BACKGROUND**

Rabex-5 (Rab 5 GDP/GTP exchange factor), also known as RABGEF1, RAP1 or RABAPTIN-5-associated exchange factor for Rab 5, is a Rab guanine nucleotide exchange factor. Rabex-5 localizes to the cytoplasm and can associate with early endosomes. It consists of an N-terminal zinc finger domain, a GEF domain, an EET (early endosomal targeting) domain and a coiled-coil domain. The EET domain is important for the association of Rabex-5 with early endosomes and for the activation of Rab 5. Truncated Rabex-5 that is missing its EET domain can still function via an association with RABAPTIN-5. The Rabex-5/RABAPTIN-5 complex can target to early endosomes in a Rab 5-dependent manner through the binding of Rab5-GTP to RABAPTIN-5. *In vitro*, Rabex-5 exhibits GEF activity on its own, however, its association with RABAPTIN-5 increases its efficiency.

#### **REFERENCES**

- Delprato, A., Merithew, E. and Lambright, D.G. 2004. Structure, exchange determinants, and family-wide Rab specificity of the tandem helical bundle and Vps9 domains of Rabex-5. Cell 118: 607-617.
- 2. Tam, S.Y., Kalesnikoff, J., Nakae, S., Tsai, M. and Galli, S.J. 2005. RabGEF-1, a negative regulator of Ras signalling, mast cell activation and skin inflammation. Novartis Found. Symp. 271: 115-124.
- Penengo, L., Mapelli, M., Murachelli, A.G., Confalonieri, S., Magri, L., Musacchio, A., Di Fiore, P.P., Polo, S. and Schneider, T.R. 2006. Crystal structure of the ubiquitin binding domains of Rabex-5 reveals two modes of interaction with ubiquitin. Cell 124: 1183-1195.
- Lee, S., Tsai, Y.C., Mattera, R., Smith, W.J., Kostelansky, M.S., Weissman, A.M., Bonifacino, J.S. and Hurley, J.H. 2006. Structural basis for ubiquitin recognition and autoubiquitination by Rabex-5. Nat. Struct. Mol. Biol. 13: 264-271.
- Mattera, R., Tsai, Y.C., Weissman, A.M. and Bonifacino, J.S. 2006. The Rab 5 guanine nucleotide exchange factor Rabex-5 binds ubiquitin (Ub) and functions as a Ub ligase through an atypical Ub-interacting motif and a zinc finger domain. J. Biol. Chem. 281: 6874-6883.
- Zhu, H., Zhu, G., Liu, J., Liang, Z., Zhang, X.C. and Li, G. 2007. RABAPTIN-5independent membrane targeting and Rab 5 activation by Rabex-5 in the cell. Mol. Biol. Cell 18: 4119-4128.
- 7. van den Hove, M.F., Croizet-Berger, K., Tyteca, D., Selvais, C., de Diesbach, P. and Courtoy, P.J. 2007. Thyrotropin activates guanosine 5'-diphosphate/guanosine 5'-triphosphate exchange on the rate-limiting endocytic catalyst, Rab 5A, in human thyrocytes *in vivo* and *in vitro*. J. Clin. Endocrinol. Metab. 92: 2803-2810.
- 8. Delprato, A. and Lambright, D.G. 2007. Structural basis for Rab GTPase activation by Vps9 domain exchange factors. Nat. Struct. Mol. Biol. 14: 406-412.
- Hayakawa, A., Hayes, S., Leonard, D., Lambright, D. and Corvera, S. 2007. Evolutionarily conserved structural and functional roles of the FYVE domain. Biochem. Soc. Symp. 95-105.

#### **CHROMOSOMAL LOCATION**

Genetic locus: RABGEF1 (human) mapping to 7q11.21.

#### **PRODUCT**

Rabex-5 (h): 293T Lysate represents a lysate of human Rabex-5 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

### **APPLICATIONS**

Rabex-5 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Rabex-5 antibodies. Recommended use: 10-20  $\mu$ l per lane

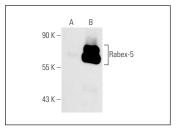
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-tranfected 293T cells.

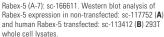
Rabex-5 (A-7): sc-166611 is recommended as a positive control antibody for Western Blot analysis of enhanced human Rabex-5 expression in Rabex-5 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

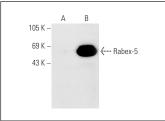
#### **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgGκ BP-HRP: sc-516102 or m-lgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

#### DATA







Rabex-5 (D-8): sc-166050. Western blot analysis of Rabex-5 expression in non-transfected: sc-117752 (A) and human Rabex-5 transfected: sc-113412 (B) 293T whole cell lysates.

#### **STORAGE**

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## **RESEARCH USE**

For research use only, not for use in diagnostic procedures.

## **PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.