

WRP (h): 293T Lysate: sc-372331

BACKGROUND

WAVE-associated Rac GTPase-activating protein (WRP), also known as SLIT-ROBO Rho GTPase-activating protein 3 (srGAP3) and Mental disorder-activating GAP (MEGAP), is a 1,099 amino acid protein containing one FCH domain, one Rho-GAP domain and one SH3 domain. Expressed highly in brain, and in lower levels in kidney, WRP is thought to play a role in cell migration through its interaction with Cdc42 and Rac1. Cdc42 and Rac1 are two intracellular signaling proteins that regulate the multistep cell migration process. WRP downregulates Cdc42 and Rac1 activity, thereby impairing actin and microtubule dynamics, the formation of protrusions, and total cell migration. Defects in the gene encoding WRP have been linked to severe idiopathic mental retardation. Three isoforms of WRP exist as a result of alternative splicing events.

REFERENCES

1. Miki, H., et al. 1998. WAVE, a novel WASP-family protein involved in Actin reorganization induced by Rac. *EMBO J.* 17: 6932-6941.
2. Wong, K., et al. 2001. Signal transduction in neuronal migration: roles of GTPase activating proteins and the small GTPase Cdc42 in the Slit-Robo pathway. *Cell* 107: 209-221.
3. Soderling, S.H., et al. 2002. The WRP component of the WAVE-1 complex attenuates Rac-mediated signalling. *Nat. Cell Biol.* 4: 970-975.
4. Endris, V., et al. 2002. The novel Rho-GTPase activating gene MEGAP/srGAP3 has a putative role in severe mental retardation. *Proc. Natl. Acad. Sci. USA* 99: 11754-11759.
5. Miki, H., et al. 2003. Regulation of Actin dynamics by WASP family proteins. *J. Biochem.* 134: 309-313.
6. Soderling, S.H., et al. 2007. A WAVE-1 and WRP signaling complex regulates spine density, synaptic plasticity, and memory. *J. Neurosci.* 27: 355-365.
7. Waltereit, R., et al. 2008. Expression of MEGAP mRNA during embryonic development. *Gene Expr. Patterns* 8: 307-310.
8. Bacon, C., et al. 2009. Dynamic expression of the Slit-Robo GTPase activating protein genes during development of the murine nervous system. *J. Comp. Neurol.* 513: 224-236.

CHROMOSOMAL LOCATION

Genetic locus: SRGAP3 (human) mapping to 3p25.3.

PRODUCT

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

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.

APPLICATIONS

WRP (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive WRP antibodies. Recommended use: 10-20 µl per lane.

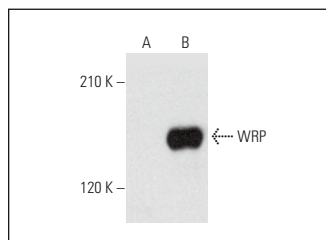
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

WRP (B-3): sc-514179 is recommended as a positive control antibody for Western Blot analysis of enhanced human WRP expression in WRP transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

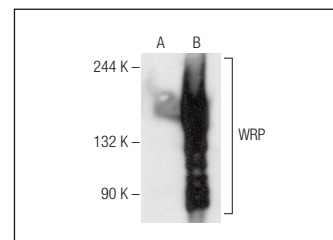
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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



WRP (B-3): sc-514179. Western blot analysis of WRP expression in non-transfected: sc-117752 (A) and human WRP transfected: sc-372331 (B) 293T whole cell lysates.



WRP (E-11): sc-374503. Western blot analysis of WRP expression in non-transfected: sc-117752 (A) and human WRP transfected: sc-372331 (B) 293T whole cell lysates.

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.