

# WRP (T-12): sc-83491

## 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 1099 amino acid protein containing 1 FCH domain, 1 Rho-GAP domain and 1 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 down-regulates 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

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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; Srgap3 (mouse) mapping to 6 E3.

## SOURCE

WRP (T-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of WRP of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-83491 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

WRP (T-12) is recommended for detection of WRP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

WRP (T-12) is also recommended for detection of WRP in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for WRP siRNA (h): sc-76929, WRP siRNA (m): sc-76930, WRP shRNA Plasmid (h): sc-76929-SH, WRP shRNA Plasmid (m): sc-76930-SH, WRP shRNA (h) Lentiviral Particles: sc-76929-V and WRP shRNA (m) Lentiviral Particles: sc-76930-V.

Molecular Weight (predicted) of WRP: 124 kDa.

Molecular Weight (observed) of WRP: 140 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. 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](http://www.scbt.com) or our catalog for detailed protocols and support products.