Revision 1

# WAVE-2 (D2C8) XP® Rabbit mAb

Store at -20C

#3659

Cell Signaling TECHNOLOGY®

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---|---|---|---|---|---|---|
| W, IP, IF-IC | H M R Mk | Endogenous | 80 | Rabbit IgG | #Q9Y6W5 | 10163 |

## Product Usage Information

| Application | Dilution |
|---|---|
| Western Blotting | 1:1000 |
| Immunoprecipitation | 1:50 |
| Immunofluorescence (Immunocytochemistry) | 1:50 |

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

## Specificity/Sensitivity

WAVE-2 (D2C8) XP® Rabbit mAb detects endogenous levels of total WAVE-2 protein.

## Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to central residues of human WAVE-2.

## Background

Wiskott-Aldrich syndrome proteins (WASPs) mediate actin dynamics by activating the Arp2/3 actin nucleation complex in response to activated Rho family GTPases. In mammals, five WASP family members have been described. Hematopoietic WASP and ubiquitously expressed N-WASP are autoinhibited in unstimulated cells. Upon stimulation they are activated by cdc42, which relieves the autoinhibition in conjunction with phosphatidyl inositol 4,5-bisphosphate. Three WAVE (Wasf, SCAR) family proteins are similar in sequence to WASP and N-WASP but lack the WASP/N-WASP autoinhibition domains and are indirectly activated by Rac (reviewed in 1). Both WASP and WAVE functions appear to be essential, as knockout of either N-WASP or Scar-2 in mice results in cardiac and neuronal defects and embryonic lethality (2,3). Loss of WASP results in immune system defects and fewer immune cells (4). WAVE-2 (WASF2) is widely distributed, while WAVE-1 and WAVE-3 are strongly expressed in brain (5). WAVE-3 may act as a tumor suppressor in neuroblastoma, a childhood disease of the sympathetic nervous system (6). Increased expression of WAVE-3 is seen in breast cancer, and studies in breast adenocarcinoma cells indicate that WAVE-3 regulates breast cancer progression, invasion and metastasis through the p38 mitogen-activated protein kinase (MAPK) pathway (7,8).

## Background References

1. Millard, T.H. et al. (2004) *Biochem J.* 380, 1-17.
2. Yan, C. et al. (2003) *EMBO J.* 22, 3602-3612.
3. Snapper, S.B. et al. (2001) *Nat. Cell Biol.* 3, 897-904.
4. Zhang, J. et al. (1999) *J. Exp. Med.* 190, 1329-4132.
5. Suetsugu, S. et al. (1999) *Biochem. Biophys. Res. Commun.* 260, 296-302.
6. Sossey-Alaoui, K. et al. (2002) *Oncogene* 21, 5967-5974.
7. Sossey-Alaoui, K. et al. (2005) *Exp. Cell Res.* 308, 135-145.
8. Sossey-Alaoui, K. et al. (2007) *Am J Pathol* 170, 2112-21.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**W:** Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

## Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

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