Revision 4

Store at -20C

#11910

EWS Antibody

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R	Endogenous	85	Rabbit	#Q01844	2130

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

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

Specificity/Sensitivity

EWS Antibody recognizes endogenous levels of total EWS protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly142 of human EWS protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The Ewing sarcoma (EWS) protein is a member of the multifunctional FET (FUS, EWS, and TAF15) family of proteins (1,2). These proteins are RNA and DNA binding proteins that are thought to be important for both transcriptional regulation and RNA processing. EWS can be found as part of a fusion protein with various E-twenty six (ETS) family transcription factors, most commonly Fli-1, in the Ewing sarcoma family of tumors (1-4). The amino terminus of the EWS protein, containing the transcriptional activation domain, is fused to the DNA binding domain of the ETS transcription factor, causing aberrant expression of target genes (1-5). EWS interacts with the transcription initiation complex via TFIID and RNA polymerase II subunits, as well as transcriptional regulators, such as Brn3A and CBP/p300, which suggests a role for EWS in transcriptional regulation (1,6-9). EWS also interacts with multiple components of the splicing machinery, implicating a role for EWS in RNA processing (1,10-12). EWS regulates the expression of cyclin D1, which controls G1-S phase transition during the cell cycle, at the level of transcriptional activation and mRNA splicing. The EWS-Fli-1 fusion protein has been shown to promote the expression of the cyclin D1b splice variant in Ewing sarcoma cells (13). In addition, EWS regulates the DNA damage-induced alternative splicing of genes involved in DNA repair and stress response and is required for cell viability upon DNA damage (14). Consistent with these results, EWS knockout mice display hypersensitivity to ionizing radiation and premature cellular senescence, suggesting a role for EWS in homologous recombination and maintenance of genomic stability (15).

Background References

1. Law, W.J. et al. (2006) *Brief Funct Genomic Proteomic* 5, 8-14.
2. Kovar, H. (2011) *Sarcoma* 2011, 837474.
3. Delattre, O. et al. (1992) *Nature* 359, 162-5.
4. May, W.A. et al. (1993) *Mol Cell Biol* 13, 7393-8.
5. Sorensen, P.H. et al. (1994) *Nat Genet* 6, 146-51.
6. Bertolotti, A. et al. (1996) *EMBO J* 15, 5022-31.
7. Bertolotti, A. et al. (1998) *Mol Cell Biol* 18, 1489-97.
8. Araya, N. et al. (2003) *J Biol Chem* 278, 5427-32.
9. Thomas, G.R. and Latchman, D.S. *Cancer Biol Ther* 1, 428-32.
10. Chansky, H.A. et al. (2001) *Cancer Res* 61, 3586-90.
11. Yang, L. et al. (2000) *J Biol Chem* 275, 37612-8.
12. Knoop, L.L. and Baker, S.J. (2001) *J Biol Chem* 276, 22317-22.
13. Sanchez, G. et al. (2008) *Proc Natl Acad Sci U S A* 105, 6004-9.
14. Paronetto, M.P. et al. (2011) *Mol Cell* 43, 353-68.
15. Li, H. et al. (2007) *J Clin Invest* 117, 1314-23.

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

Cross-Reactivity Key

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

Trademarks and Patents

Limited Uses