

# Phospho-Bad (Ser136) Antibody

✓ 200 µl  
(10 Western mini-blot)

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This product is for *in vitro* research use only and is not intended for use in humans or animals.  
This product is not intended for use as a therapeutic or in diagnostic procedures.

Applications	Species Cross-Reactivity*	Source
W Transfected	M, (H, R)	Rabbit**

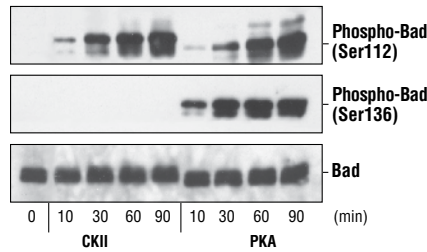
**Background:** Bad is a proapoptotic member of the Bcl-2 family that can displace Bax from binding to Bcl-2 and Bcl-xL, resulting in cell death (1,2). Survival factors such as IL-3 can inhibit the apoptotic activity of Bad by activating intracellular signaling pathways that result in the phosphorylation of Bad at Ser112 and Ser136 (2). Phosphorylation at these sites results in the binding of Bad to 14-3-3 proteins and the inhibition of Bad binding to Bcl-2 and Bcl-xL (2). Akt has been shown to promote cell survival via its ability to phosphorylate Bad at Ser136 (3,4). Bad is phosphorylated at Ser112 both *in vivo* and *in vitro* by p90RSK (5,6) and mitochondria-anchored PKA (7). Phosphorylation of Ser155 in the BH3 domain by PKA plays a critical role in blocking the dimerization of Bad and Bcl-xL (8-10).

**Specificity/Sensitivity:** Phospho-Bad (Ser136) Antibody detects transfected levels of Bad only when phosphorylated at Ser136. This antibody does not detect Bad phosphorylated at other sites, nor does it detect related family members.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic phospho-peptide corresponding to residues surrounding Ser136 of mouse Bad. Antibodies are purified by protein A and peptide affinity chromatography.

**Background References:**

- (1) Yang, E. et al. (1995) *Cell* 80, 285–291.
- (2) Zha, J. et al. (1996) *Cell* 87, 619–628.
- (3) Datta, S.R. et al. (1997) *Cell* 91, 231–241.
- (4) Peso, L. et al. (1997) *Science* 278, 687–689.
- (5) Bonni, A. et al. (1999) *Science* 286, 1358–1362.
- (6) Tan, Y. et al. (1999) *J. Biol. Chem.* 274, 34859–34867.
- (7) Harada, H. et al. (1999) *Mol. Cell* 3, 413–422.
- (8) Tan, Y. et al. (2000) *J. Biol. Chem.* 275, 25865–25869.
- (9) Lizcano, J. et al. (2000) *Biochem. J.* 349, 547–557.
- (10) Datta, S. et al. (2000) *Mol. Cell* 6, 41–51.



Western blot analysis of GST-Bad, phosphorylated by CKII or PKA *in vitro*, using Phospho-Bad (Ser112) Antibody #9291 (top), Phospho-Bad (Ser136) Antibody (middle) or Bad Antibody #9292 (bottom).



Western blot analysis of extracts from 293 cells transfected with Wild-type Bad, Bad (S112A), Bad (S136A) or Bad (S112A/S136A), untreated, TPA-treated or forskolin-treated, using Phospho-Bad (Ser112) Antibody #9291 (top), Phospho-Bad (Ser136) Antibody (middle) or Bad Antibody #9292 (bottom).

Entrez-Gene ID #572  
Swiss-Prot Acc. #Q92934

**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.

\*Species cross-reactivity is determined by western blot.

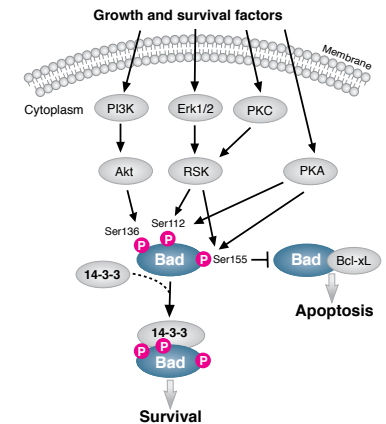
\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**

Western Blotting 1:500

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.



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

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.