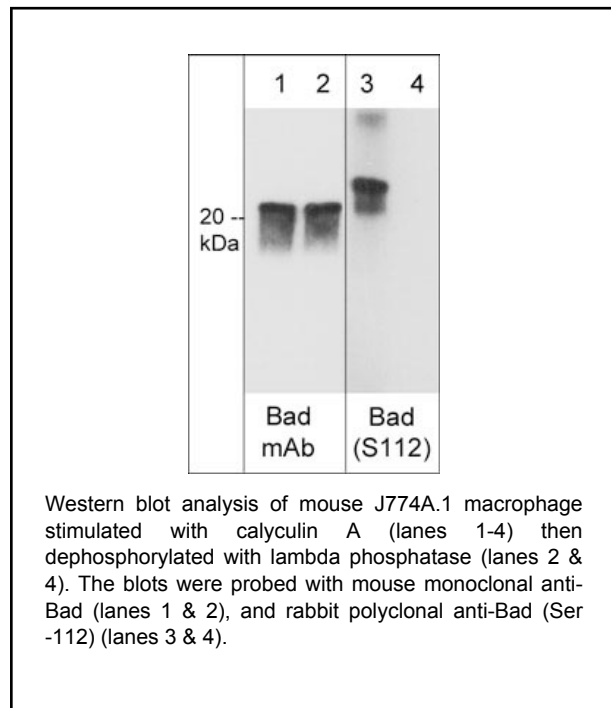


### Background

Bad is a member of the BCL-2 family of regulators involved in programmed cell death. This protein positively regulates cell apoptosis by forming heterodimers with BCL-xL and BCL-2, and reversing their death repressor activity. Proapoptotic activity of this protein is regulated through its phosphorylation. Protein kinases AKT IKK, and MAP kinases, as well as protein phosphatase calcineurin are found to be involved in the regulation of this Bad activity. Phosphorylation of Bad occurs on one or more of Ser-26, Ser-112, Ser-136, and Ser-155 in response to survival stimuli, which blocks its pro-apoptotic activity. Phosphorylation on Ser-136 or Ser-112 promotes heterodimerization with 14-3-3 proteins. This interaction then facilitates the phosphorylation at Ser-155, a site within the BH3 motif, leading to the release of Bcl-xL and the promotion of cell survival. Ser-26 is phosphorylated by IKK leading to phosphorylation of C-terminal serine sites and disruption of binding to Bcl-xL. This inactivation of Bad inhibits TNF $\alpha$ -induced apoptosis independent of NF- $\kappa$ B activity.

### Background References

Danial, N.N. (2008) *Oncogene*. 27(Suppl.): S53.  
 Yan, J. et al. (2013) *Cell*. 152:304.



### Applications

WB 1:500  
 ELISA 1:1000

### Species Reactivity

Hu, Rt, Ms

### Specificity

This antibody was affinity purified using phospho-Bad (Ser-112) peptide (without carrier). The antibody detects a 23 kDa\* doublet corresponding to the apparent molecular mass of phosphorylated Bad on SDS-PAGE immunoblots of mouse J774A.1 treated with calyculin A. This reactivity is not observed after lambda phosphatase treatment.

End user should determine optimal dilution for their particular applications and experiments.  
 Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

\*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

### Immunogen

Uniprot ID: Q61337

Phospho-Bad (Ser-112) synthetic peptide (coupled to KLH) corresponding to amino acid residues surrounding serine 112 in mouse Bad. This peptide sequence is highly conserved in human (Ser-75) and rat (Ser-113) Bad.

### Buffer and Storage

Rabbit polyclonal, affinity-purified antibody is supplied in 200µl phosphate-buffered saline and 0.09% sodium azide. Store at -20°C. Stable for 1 year.

### Related Products

BM4941 Bad Mouse Monoclonal  
 BP4951 Bad (Ser-26), phospho-specific Rabbit Polyclonal  
 BK6950 Bad Phospho-Regulation Antibody Sampler Kit  
 BX4955 phospho-Bad (Ser-26) Blocking Peptide  
 BP5111 Bcl-x Rabbit Polyclonal

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