

#3348 Store at -20°C

Phospho-ALK (Tyr1586) (3B4) Rabbit mAb

100 μl
 (10 western blots)



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Entrez-Gene ID #238
Swiss-Prot Acc. #Q9UM73

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W Endogenous	H	80 kDa NPM-ALK fusion; 220 kDa ALK	Rabbit IgG**

Background: Anaplastic lymphoma kinase (ALK) is a tyrosine kinase receptor for pleiotrophin (PTN), a growth factor involved in embryonic brain development (1-3). In ALK-expressing cells, PTN induces phosphorylation of both ALK and the downstream effectors IRS-1, Shc, PLC γ and PI3 kinase (1). ALK was originally discovered as an NPM (nucleophosmin)-ALK fusion protein produced by a translocation (4). The NPM-ALK fusion protein is a constitutively active, oncogenic tyrosine kinase associated with anaplastic lymphoma (4). Activation of PLC γ by NPM-ALK has been suggested to be a crucial step for its mitogenic activity and may be important in the pathogenesis of anaplastic lymphomas (5).

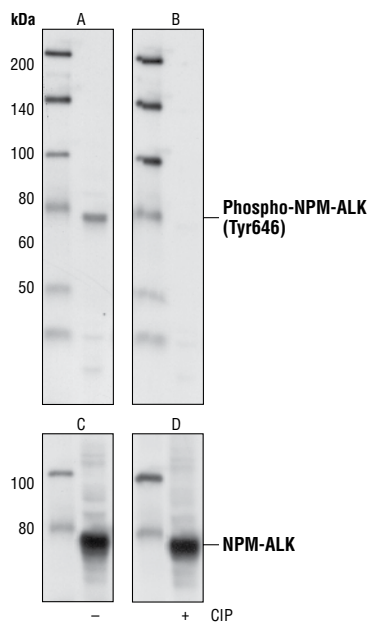
A distinct ALK oncogenic fusion protein involving ALK and EML4 has been described from a non-small cell lung cancer cell line, with corresponding fusion transcripts present in some cases of lung adenocarcinoma. The short, amino-terminal region of the microtubule-associated protein EML4 is fused to the kinase domain of ALK (6,7).

Specificity/Sensitivity: Phospho-ALK (Tyr1586) (3B4) Rabbit mAb detects ALK only when phosphorylated at Tyr1586 (equivalent to Tyr646 of NPM-ALK). This antibody may cross-react with other activated protein tyrosine kinases including EGFR.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr1586 of human ALK.

Background References:

- (1) Stoica, G.E. et al. (2001) *J Biol Chem* 276, 16772-9.
- (2) Iwahara, T. et al. (1997) *Oncogene* 14, 439-49.
- (3) Morris, S.W. et al. (1997) *Oncogene* 14, 2175-88.
- (4) Morris, S.W. et al. (1994) *Science* 263, 1281-4.
- (5) Bai, R.Y. et al. (1998) *Mol Cell Biol* 18, 6951-61.
- (6) Rikova, K. et al. (2007) *Cell* 131, 1190-203.
- (7) Takeuchi, K. et al. (2008) *Clin Cancer Res* 14, 6618-24.



Western blot analysis of Sup-M2 cell lysate, using Phospho-ALK (Tyr1586) (3B4) Rabbit mAb (A and B), and ALK Antibody #3342 (C and D). The phospho-specificity of this antibody was characterized by treating the membrane with calf intestinal alkaline phosphatase (CIP) (B and D) after western transfer.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 $\mu\text{g/ml}$ BSA, 50% glycerol and less than 0.02% sodium azide. 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 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit 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.

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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.