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#8868

ALK (D5F3®) XP® Rabbit mAb (PE Conjugate)



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: FC-FP	Reactivity: H	Sensitivity: Endogenous	Source/Isotype: Rabbit IgG	UniProt ID: #Q9UM73	Entrez-Gene Id: 238
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Product Usage Information	Application Flow Cytometry (Fixed/Permeabilized)	Dilution 1:50
Storage	Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibodies. Protect from light. Do not freeze.	
Specificity / Sensitivity	ALK (D5F3®) XP® Rabbit mAb (PE Conjugate) detects endogenous levels of total ALK protein as well as ALK fusion proteins, such as EML4-ALK variants and NPM-ALK, even at low levels. This antibody does not cross-react with other family members.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with recombinant protein corresponding to residues in the carboxy terminus of human ALK.	
Product Description	This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometry analysis in human cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated ALK (D5F3®) XP® Rabbit mAb #3633.	
Background	<p>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, PLCγ, and PI3 kinase (1). ALK was originally discovered as a nucleophosmin (NPM)-ALK fusion protein produced by a translocation (4). Investigators have found that the NPM-ALK fusion protein is a constitutively active, oncogenic tyrosine kinase associated with anaplastic lymphoma (4). Research literature suggests that activation of PLCγ by NPM-ALK may be a crucial step for its mitogenic activity and involved in the pathogenesis of anaplastic lymphomas (5).</p> <p>A distinct ALK oncogenic fusion protein involving ALK and echinoderm microtubule-associated protein like 4 (EML4) has been described in the research literature from a non-small cell lung cancer (NSCLC) 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 (6-8).</p> <p>Investigators have identified ALK translocations with other fusion partners, such as TRK-fused gene (TFG) and KIF5B, which have also been associated with NSCLC (6,7). In particular, the EML4-ALK fusion protein has been found in 3-7% of NSCLC samples (6-14).</p>	
Background References	<ol style="list-style-type: none"> 1. Stoica, G.E. et al. (2001) <i>J Biol Chem</i> 276, 16772-9. 2. Iwahara, T. et al. (1997) <i>Oncogene</i> 14, 439-49. 3. Morris, S.W. et al. (1997) <i>Oncogene</i> 14, 2175-88. 4. Morris, S.W. et al. (1994) <i>Science</i> 263, 1281-4. 5. Bai, R.Y. et al. (1998) <i>Mol Cell Biol</i> 18, 6951-61. 6. Rikova, K. et al. (2007) <i>Cell</i> 131, 1190-203. 7. Takeuchi, K. et al. (2008) <i>Clin Cancer Res</i> 14, 6618-24. 8. Soda, M. et al. (2007) <i>Nature</i> 448, 561-6. 9. Takeuchi, K. et al. (2009) <i>Clin Cancer Res</i> 15, 3143-9. 10. Palmer, R.H. et al. (2009) <i>Biochem J</i> 420, 345-61. 11. Horn, L. and Pao, W. (2009) <i>J Clin Oncol</i> 27, 4232-5. 12. Rodig, S.J. et al. (2009) <i>Clin Cancer Res</i> 15, 5216-23. 13. Mino-Kenudson, M. et al. (2010) <i>Clin Cancer Res</i> 16, 1561-71. 14. Kwak, E.L. et al. (2010) <i>N Engl J Med</i> 363, 1693-703. 	

Species Reactivity

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

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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