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Anti-ALK: Mouse ALK Antibody

Description

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?, and PI3 kinase (1). Moreover, ALK was 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 PLC? by NPM-ALK may be a crucial step for its mitogenic activity and involved in the pathogenesis of anaplastic lymphomas (5). 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). 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 NSCL patients (6-14).

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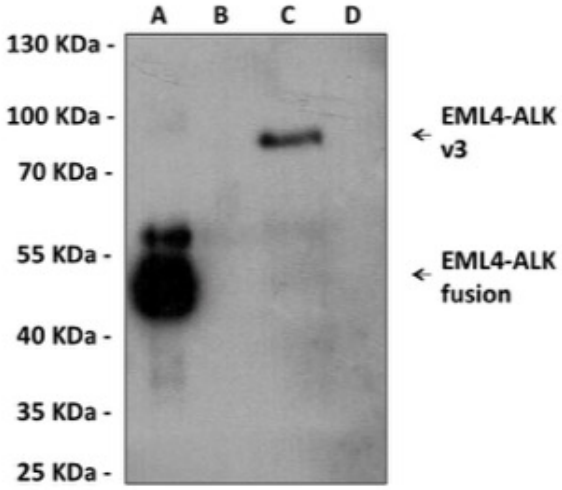

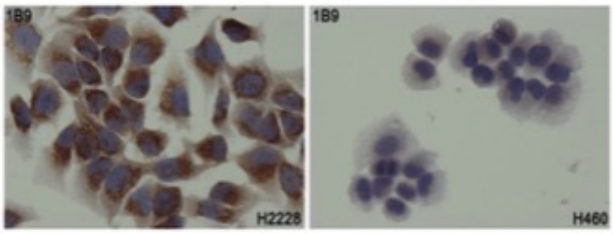

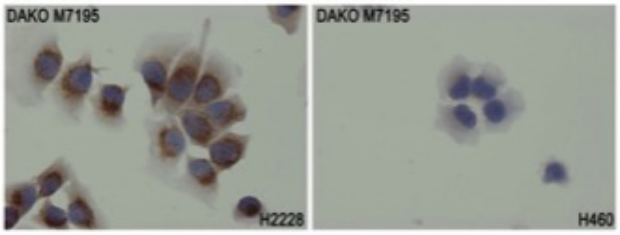

[1]

Top: Western Blot detection of ALK fusion protein expression using ALK-specific monoclonal (1B9) antibody.

ALK is found as a fusion protein in NSCLC cell lines and is reported to be expressed by H2228 cells with a MW of 90kDa (11, 15).
Lane A: 293 cells transfected with plasmid encoding EML4 (1-200aa)-ALK (1421-1620aa) fusion protein.
Lane B: 293 cells transfected with mock vector
Lane C: H2228 cells with endogenous EML4-ALK v3, EML4(1-222aa)-ALK(1058-1620aa), fusion protein.
Lane D: H460 cells (negative control cell lysate).
Middle: Immunocytochemical stainings of H2228 cells and H460 (ALK-negative) cells using ALK-specific monoclonal antibody (clone 1B9). ALK monoclonal (1B9) antibody (1:200 dilution).
Bottom: Immunocytochemical stainings of H2228 cells and H460 (ALK-negative) cells using ALK-specific monoclonal antibody (clone 1B9). DAKO ALK antibody product M7195 (1:200 dilution).

Details

Cat.No.:	CC10035
Antigen:	Recombinant human ALK fusion protein (1421-1620aa) expressed in mammalian cells.
Isotype:	Mouse IgG
Species & predicted species cross-reactivity ( ):	Human, Mouse, Rat
Applications & Suggested starting dilutions:*	WB 1:1000-1:2000 IP n/d IHC 1:200 ICC 1:200 FACS n/d
Predicted Molecular Weight of protein:	220 KDa (ALK), 80 KDa (NPM-ALK), 117 KDa (EML4-ALK v1), 90 KDa (EML4-ALK v3)
Specificity/Sensitivity:	Detects endogenous ALK proteins without cross-reactivity with other family members.
Storage:	Store at -20°C, 4°C for frequent use. Avoid repeated freeze-thaw cycles.

*Optimal working dilutions must be determined by end user.

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