Human CFL1 Antibody

Monoclonal Mouse IgG_{2B} Clone # 1093310

Catalog Number: MAB11669

DESCRIPTION

Species Reactivity	Human
Specificity	Detects a synthetic peptide specific for human CFL1 around aa 30 in Direct ELISA.
Source	Monoclonal Mouse IgG_{2B} Clone # 1093310
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Synthetic Peptide Accession # P23528
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	Jurkat human acute T cell leukemia cell line, MCF-7 human breast cancer cell line, NIH-3T3 mouse embryonic fibroblast cell line and C6 rat glioma cell line
Immunocytochemistry	3-25 µg/mL	Immersion fixed MCF-7 human breast cancer cell line
Immunohistochemistry	3-25 µg/mL	Immersion fixed paraffin-embedded sections of liver
Simple Western	10-100 µg/mL	Exosome Standards (LNCaP) (Catalog # NBP3-11687), Exosome Standards (PC-3) (Catalog # NBP2-49856) and MCF-7 human breast cancer cell line

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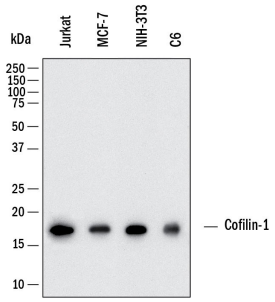
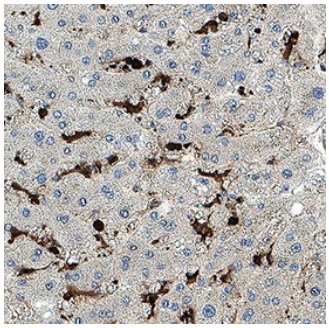
DATA

Western Blot



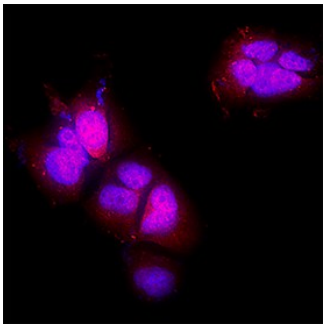
Detection of Human, Mouse and Rat CFL1 by Western Blot. Western Blot shows lysates of Jurkat human acute T cell leukemia cell line, MCF-7 human breast cancer cell line, NIH-3T3 mouse embryonic fibroblast cell line and C6 rat glioma cell line. PVDF membrane was probed with 0.5 µg/ml of Mouse Anti-Human CFL1 Monoclonal Antibody (Catalog # MAB11669) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for CFL1 at approximately 17 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Immunohistochemistry



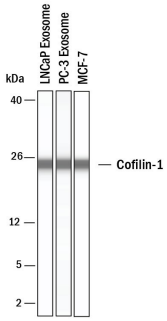
Detection of CFL1 in Liver CFL1 was detected in immersion fixed paraffin-embedded sections of liver using Mouse Anti-Human CFL1 Monoclonal Antibody (Catalog # MAB11669) at 5 µg/ml for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001) or the HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to the nucleus and cytoplasm. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

Immunocytochemistry



Detection of CFL1 in MCF-7 Human Cell Line. CFL1 was detected in immersion fixed MCF-7 human breast cancer cell line using Mouse Anti-Human CFL1 Monoclonal Antibody (Catalog # MAB11669) at 8 µg/ml for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to the nucleus and cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Simple Western



Detection of Human CFL1 by Simple Western™. Simple Western shows lysates of Exosome Standards (LNCaP) (Catalog # NBP3-11687), Exosome Standards (PC-3) (Catalog # NBP2-49856) and MCF-7 human breast cancer cell line, loaded at 0.5 mg/ml. A specific band was detected for CFL1 at approximately 24 kDa (as indicated) using 10-100 µg/mL of Mouse Anti-Human CFL1 Monoclonal Antibody (Catalog # MAB11669). This experiment was conducted under reducing conditions and using the 2-40 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute lyophilized material at 0.2 mg/ml in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Cofilin-1 (CFL1) is an 18.5 kDa protein that is a member of the actin deploy family (ADF). It is involved in the biological activities of various malignancies, including infiltration, metastasis, and chemotherapy resistance. Overexpression of CFL is associated with aggressive features and poor prognosis in malignancies. CFL1 also plays a crucial role in B cell, T cell infiltration, cytokine and NF-κB signaling pathways and can serve as a useful biomarker for diagnosis of inflammatory diseases.

References:

1. Yin X, Li X, Jiang H, Lin X, Ma Z, Chen X, Teng Q, Zhang J, Jin J. CFL1 is Implicated in Chronic Myeloid Leukemia Response during Imatinib Therapy. J Cancer. 2024 Mar 4;15(8):2424-2430. doi: 10.7150/jca.92202. PMID: 38495482; PMCID: PMC10937266.
2. Xing J, Wang Y, Peng A, Li J, Niu X, Zhang K. The role of actin cytoskeleton CFL1 and ADF/cofilin superfamily in inflammatory response. Front Mol Biosci. 2024 Jul 24;11:1408287. doi: 10.3389/fmolb.2024.1408287. PMID: 39114368; PMCID: PMC11303188.

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