Human/Mouse/Rat α-Cardiac Actin Antibody

Monoclonal Mouse IgG_{2A} Clone # 959615

Catalog Number: MAB93081

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human α-Cardiac Actin in direct ELISAs. Detects human,mouse, and rat α-Cardiac Actin in Western blots.
Source	Monoclonal Mouse IgG_{2A} Clone # 959615
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human α-Cardiac Actin Asp3-Phe377 Accession # P68032
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

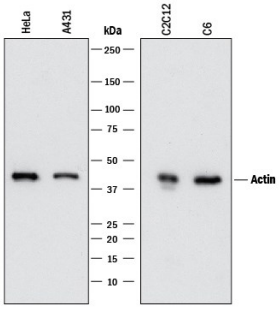
APPLICATIONS

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	2 µg/mL	See Below
Immunohistochemistry	1.7-25 µg/mL	Immersion fixed paraffin-embedded sections of human heart
Simple Western	20 µg/mL	Human Heart

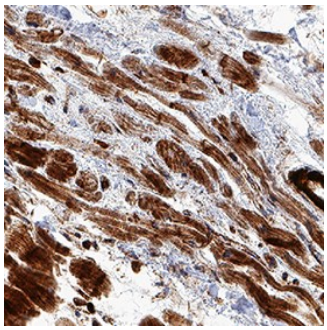
DATA

Western Blot



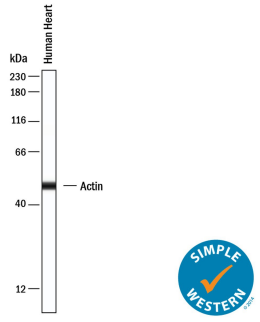
Detection of Human, Mouse, and Rat α-Cardiac Actin by Western Blot. Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line, A431 human epithelial carcinoma cell line, C2C12 mouse myoblast cell line, and C6 rat glioma cell line. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human/Mouse/Rat a-Cardiac Actin Monoclonal Antibody (Catalog # MAB93081) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for a-Cardiac Actin at approximately 40 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



α-Cardiac Actin in Human Heart. α-Cardiac Actin was detected in immersion fixed paraffin-embedded sections of human heart using Mouse Anti-Human/Mouse/Rat α-Cardiac Actin Monoclonal Antibody (Catalog # MAB93081) at 1.7 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cardiomyocytes. Staining was performed using our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

Simple Western



Detection of Human/Mouse/Rat α-Cardiac Actin by Simple Western™. Simple Western lane view shows lysates of Human Heart, loaded at 0.2 mg/mL. A specific band was detected for α-Cardiac Actin at approximately 49 kDa (as indicated) using 20 µg/mL of Mouse Anti-Human/Mouse/Rat α-Cardiac Actin Monoclonal Antibody (Catalog # MAB93081). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

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Human/Mouse/Rat α-Cardiac Actin Antibody

Monoclonal Mouse IgG_{2A} Clone # 959615

Catalog Number: MAB93081

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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

Actin, alpha cardiac muscle 1 (ACTC1) is a 377 aa cytoskeletal filament in cardiac muscle which interacts with the 50-KDa domain of the myosin motor domain in cardiac muscle contraction. Actin is highly conserved across species, and differs from skeletal muscle actin (ACTA1) by only four amino acids. Mutations in the ACTC1 gene are linked to familial hypertrophy cardiomyopathy, atrial septal defects, arrhythmia, and chronic inflammatory cardiomyopathy.

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