

DESCRIPTION

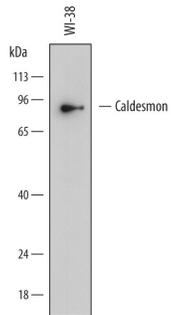
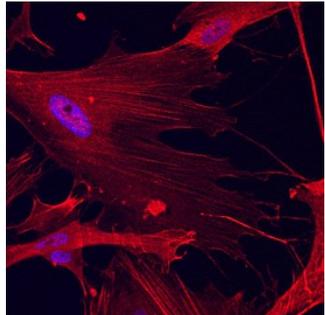
Species Reactivity	Human
Specificity	Detects human Caldesmon/CALD1 in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG _{2B} Clone # 767001
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Caldesmon/CALD1 Lys696-Val793 Accession # Q05682
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 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
Immunocytochemistry	8-25 µg/mL	See Below

DATA

<p>Western Blot</p>  <p>Detection of Human Caldesmon/CALD1 by Western Blot. Western blot shows lysates of WI-38 human lung fibroblast cell line. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human Caldesmon/CALD1 Monoclonal Antibody (Catalog # MAB7569) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Caldesmon/CALD1 at approximately 80 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Immunocytochemistry</p>  <p>Caldesmon/CALD1 in WI-38 Human Cell Line. Caldesmon/CALD1 was detected in immersion fixed WI-38 human lung fibroblast cell line using Mouse Anti-Human Caldesmon/CALD1 Monoclonal Antibody (Catalog # MAB7569) at 10 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 cytoskeleton. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>
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PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
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. <ul style="list-style-type: none"> • 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

Caldesmon, also known as CaD or h-CaD, is a 120-150 kDa cytosolic protein that is important in actin cytoskeleton dynamics. Smooth muscle Caldesmon regulates calcium-dependent smooth muscle contraction by stabilizing actin filaments, inhibiting the actomyosin ATPase, and interacting with F-actin, myosin, tropomyosin, and calmodulin. It is also a key molecule in other related actin-related processes including cytokinesis, cell migration, wound healing, and exocytosis. Caldesmon activity is regulated by serine and tyrosine phosphorylation by multiple kinases. Alternate splicing generates 70-80 kDa isoforms of human Caldesmon, known as I-CaD, that lack the central repeating region of the protein (aa 208-436 or aa 208-462). These isoforms are widely expressed and are comparable in size to full length mouse and rat Caldesmon. Within aa 696-793, human Caldesmon shares 94% and 95% aa sequence identity with mouse and rat Caldesmon, respectively.