

Product Specification Sheet

Actin Antibodies and controls

Cat. # ACTB24-M	Mouse monoclonal Anti-Actin (Pan, alpha, beta, gamma) IgG, aff pure	SIZE: 100 ug
Cat. # ACTB24-FITC	Mouse monoclonal Anti-Actin (Pan, alpha, beta, gamma) IgG-FITC conjugate	SIZE: 100 ul
Cat. # ACTB24-BTN	Mouse monoclonal Anti-Actin (Pan, alpha, beta, gamma) IgG-Biotin conjugate	SIZE: 50 ul
Cat. # ACTB24-Cy	Mouse monoclonal Anti-Actin (Pan, alpha, beta, gamma) IgG-Cy3 conjugate	SIZE: 100 ul

Actin and myosin are the two major cytoskeleton proteins implicated in cellular movement, secretion, phagocytosis, and kinesis. Actin is one of the most conserved cellular protein. At least 6 actin isoforms have been identified by protein sequence analyses. Four actin isoforms represent the differentiation markers of muscle tissues. There are three α -actins: α -skeletal, α -cardiac, and α -smooth muscle), one β -actin (β -non-muscle), and two γ -actins (γ -smooth muscle and γ -non-muscle). Actin isoform are >90% conserved, except in the N-terminal 18-aa (50-60% homology). Beta-actin protein and mRNA levels are often used as a reference for comparing changes in cellular protein/mRNA levels by Western or Northern blots.

Source of Antigen and Antibodies

Antigen	11-aa-MAPS peptide (SGPSIVHRKCF) of actin (1) ; Designated (ACTB24-P or control peptide), Epitope location~ C-terminal,
Ab Host/type	mouse, monoclonal IgG2a purified over antigen affinity column # ACTB24-M
2-Ab	Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Cat# ACTB24-M, unlabeled

Purified anti-actin antibody is supplied in PBS, pH 7.4 at 1 mg/ml (or see lot sp concn on the vial) in 100ug/100 ul in PBS or lyophilized in PBS. Store powder or stock solution at -20oC for long term storage. Reconstitute powder in 100 ul PBS and store in suitable size aliquots. Avoid freeze and thaw.

Cat# ACTB24-FITC, FITC-conjugate

Purified anti-actin IgG was coupled to FITC at F/P ratio ~3:7. The antibody is supplied in PBS, pH 7.4, 0.2% BSA and 0.05% azide in either **lyophilized** (0.1 ml) or **liquid** form (0.1 ml). Reconstitute powder in PBS in 0.1 ml to prepare stock solution. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:50--1:200 for immunofluorescence.

Absorption Wavelength: 495 nm
Emission Wavelength: 528 nm

Cat# ACTB24-BTN, Biotin-conjugate

Purified antibody was coupled to Biotin using Biotinamidocaproate N-Hydroxysuccinimide Ester (BAC) at

F/P ratio ~10-20:1. The antibody is supplied in PBS, pH 7.4, 0.2% BSA and 0.05% azide in either **lyophilized** (100 ul) or **liquid** form (50 ul). Reconstitute powder in PBS in 50 ul to prepare stock solution (it is also possible to dissolve the powder in 0.5 ml to make 1:10 diluted stock). Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:5,000-1:30,000 ELISA, 1:2K-1:10K for western; 1:1000-1:5000 for IHC/IF.

User must test and optimize the dilution for a given application.

Cat# ACTB24-Cy3, Cy3-conjugate

Purified anti-actin IgG was coupled to Cy3. The antibody is supplied in PBS, pH 7.4, 0.2% BSA and 0.05% azide in either **lyophilized** (0.1 ml) or **liquid** form (0.1 ml). Reconstitute powder in PBS in 0.1 ml to prepare stock solution. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:50--1:200 for direct immunofluorescence.

Cy3 color Orange
Absorption Wavelength: 552 nm
Emission Wavelength: 565 nm
Recommended Usage

Western Blotting: monoclonal antibodies at :1500-1:2K using Chemiluminescence technique)..

ELISA (1:10-50K; using 50-200 ng control antigen/well).

Specificity & Cross-reactivity

The ACTB24-P is quite conserved in various species: mouse, rat, human, chicken, frog etc actins. The antibody reacts with human, bovine, sheep, goat, pig, rabbit, dog, mouse, rat, g. pig, hamster, chicken, carp, frog, and snail actins. The ACTB24-P control peptide, because of its small size, is not suitable for Western. It should be used in ELISA, dot blot or to neutralize antibody and confirm specificity of antibody. Purified human actin protein (#ACTB12-C) can be used as control for western. Rabbit polyclonal antibodies made to the same peptide (ACTB24-P) are also available (Cat# ACTB22-A).

References: (1). Ohmuri H (1995) Gene Accession # S38782; Vandekerchove, J et al (1978) Eur. J. Biochem. 90, 451; Lessard J et al (1988) Cell. Motil Cytoskel. 10, 349; North JA et al (1994) J. Cell Sci. 107, 437;

Related items available from ADI

Purified actin (muscle and non-muscle proteins)
Antibodies to alpha and beta-actins
ACTB24-M-FITC-BTN-Cy3 71116A