

Product Specification Sheet

Human Beta-Actin Antibodies and controls

Cat. # ACTB12-P	Human Beta-Actin Control/blocking Peptide # 1	SIZE: 100 ug
Cat. # ACTB12-C	Purified Human Beta-Actin protein control for Western	SIZE: 100 ul
Cat. # ACTB12-M	Mouse Monoclonal Anti-Human Beta-Actin peptide, ascites	SIZE: 100 ul
Cat. # ACTB12-HRP	Mouse Monoclonal Anti-Human Beta-Actin IgG-HRP conjugate	SIZE: 100 ul
Cat. # ACTB12-FITC	Mouse Monoclonal Anti-Human Beta-Actin IgG-FITC 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	15-aa peptide of human beta-actin (non-muscle) (1) ; Designated (ACTB12-P or control peptide) conjugated to KLH. Epitope location ~ N-terminal
Ab Host/type	Mouse, monoclonal ascites # ACTB12-M (isotype IgG1)
2-Ab	Cat # 40320, goat anti-mouse IgG-HRP (AP, biotin, FITC conjugates also available).
-ve	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Human beta actin (cat # ACTB16-N) was purified from platelets (>95%, mol wt ~43 kda) and used for control. For Western blot +ve control (**Cat # ACTB12-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **ACTB12-C** for good visibility with antibody Cat # **ACTB11-S** or other antibodies. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **ACTB12-C** solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

Cat# ACTB12-HRP

Purified anti-beta actin IgG was coupled to peroxidase using glutaraldehyde method (**cat # ACTB12-HRP**). The conjugate is provided PBS, pH 7.4 containing 0.02% merthiolate as preservative. Store at 4oC for short term use or frozen in suitable size aliquots at -20oC or below.

Avoid repeated freeze and thaw. The conjugate is suitable for ELISA (1:5000-1:10000), Western (1:1000-1:5000). Antibody conjugate dilution must be optimized for each application.

Cat# ACTB12-FITC

Purified anti-beta actin IgG was coupled to FITC (**cat # ACTB12-FITC**). The conjugate is provided PBS, pH 7.4 containing, 1% BSA, and 0.02% merthiolate as preservative. Store at 4oC for short term use or frozen in suitable size aliquots at -20oC or below. Avoid repeated freeze and thaw. The conjugate is suitable for immunofluorescent staining of cells and tissues (antibody dilution 1:1:500). Antibody conjugate dilution must be optimized for each application.

Recommended Usage

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

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

Storage

Short-term: unopened, undiluted liquid vials for less than a week at 4oC.

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Specificity & Cross-reactivity

The human ACTB12-P is quite conserved in various species: mouse, rat, human, chicken, frog, etc. Antibody cross-reactivity in various species has not been studied. The ACTB12-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. Unlabeled antibodies cat # ACBT12-M and purified human beta-actin protein (#ACTB12-C) are also available for control studies.

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;