

Product Specification Sheet

**Human Beta-Actin (non-muscle) Antibodies and protein control**

Cat. # ACTB17-S	<b>Rabbit</b> Anti-Beta-Actin (non-muscle) peptide antiserum # 1	<b>SIZE:</b> 100 ul
Cat. # ACTB12-C	Purified Beta-Actin (non-muscle) protein control for Western	<b>SIZE:</b> 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  $\alpha$ -actins:  $\alpha$ -skeletal,  $\alpha$ -cardiac, and  $\alpha$ -smooth muscle), one  $\beta$ -actin ( $\beta$ -non-muscle), and two  $\gamma$ -actins ( $\gamma$ -smooth muscle and  $\gamma$ -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**

<b>Antigen</b>	Purified (>95%) human platelet (non-muscle) beta-actin protein ( <b>#ACTB16-N-1</b> ) was modified using proprietary methods to enhance antigenicity and used as antigen
<b>Location</b>	Epitope unknown
<b>Ab Host/type</b>	Rabbit, Polyclonal unpurified antiserum # <b>ACTB17-S</b>
<b>2-Ab</b>	Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
<b>-ve</b>	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Human beta-actin was purified (>95%) from platelets (cat # ACTB16-N-1) 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 # ACTB17-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

**Form & Storage of Antibodies/Peptide Control**

**Antiserum (unpurified)**

100ul solution lyophilized powder  
Supplied in Buffer: 0.05% azide  
**Reconstitute** powder in 100 ul PBS

**Storage**

**Short-term:** unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

**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.

**Shipping:** 4oC for solutions and room temp for powder

**Recommended Usage**

**Western Blotting** (1:500-:1:2K) using ECL technique. muscle actin ~43 kDa (monomer) and 46 kDa (dimer).

**ELISA:** Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

**Histochemistry & Immunofluorescence:** It is recommended to use acetone-fixed, frozen sections.

**Specificity & Cross-reactivity**

Beta-actin is quite conserved in various species. Antibodies #ACTB17-S are expected to react with beta-actin from mouse, rat, human and other species. However, antibody cross-reactivity in various species has not been studied. Purified human beta actin proteins # ACTB12-C or # ACTB16-N-1 should be used in ELISA, dot blot or western to confirm specificity of antibody.

**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;

\*This product is for In vitro research use only.

**Related material available from ADI**

Antibodies G3PDH and purified proteins

Poly and mono Antibodies to beta-actin (non-muscle) and HRP, FITC conjugates

ACTB17-S 70809A