

# Actin (Tyr-53), phospho-specific

Cat. # AP1671

Host Rabbit Polyclonal

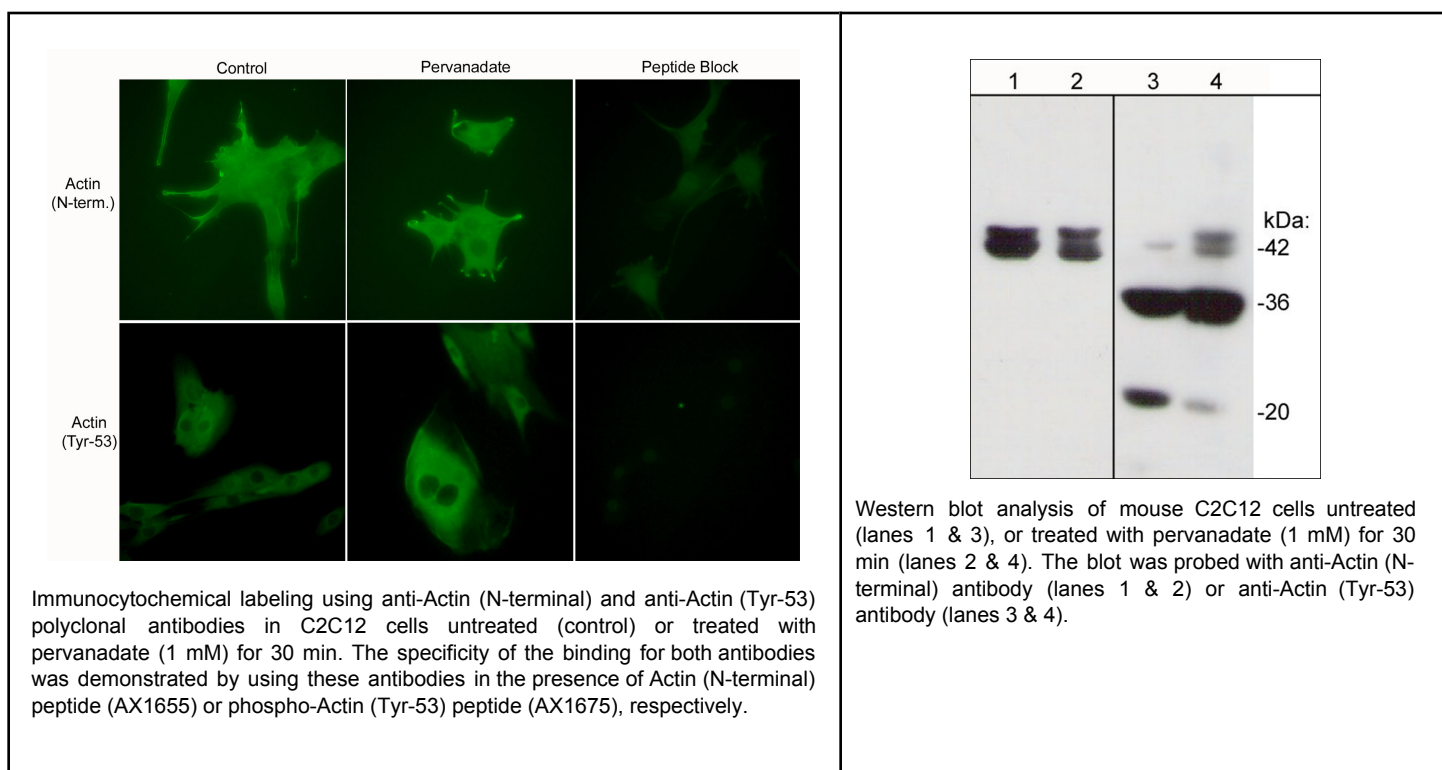
Size 100 µl

## Background:

Actin is a major cytoskeletal protein involved in diverse cellular functions including cell motility, adhesion, and morphology. Six different actin isoforms have been identified in vertebrates. There are four  $\alpha$  isoforms: skeletal, cardiac, and two smooth muscle (enteric and aortic) actins, along with two cytoplasmic actins ( $\beta$  and  $\gamma$ ). Actin exists in two principal forms, globular, monomeric (G) actin, and filamentous polymeric (F) actin. The assembly and disassembly of actin filaments, and also their organization into functional networks, is regulated by a variety of actin-binding proteins (ABPs). Phosphorylation may also be important for regulating actin assembly and interaction with ABPs. In *Dictyostelium*, phosphorylation of Tyr-53 occurs in response to cell stress and this phosphorylation may alter actin polymerization. In B cells, SHP-1 tyrosine dephosphorylation of actin leads to actin filament depolymerization following BCR stimulation.

## References

- Baba, T. et al. (2003) J. Immunol. 170: 3762.  
Jungbluth, A. et al. (1995) FEBS Let. 375:87.  
Winder, S.J. et al. (2005) J. Cell Sci. 118:651.  
Liu, X. et al. (2006) Proc Nat Acad Sci U S A. 103(37):13694



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Size 100  $\mu$ l

## **Immunogen:**

Phospho-Actin (Tyr-53) synthetic peptide (coupled to KLH) corresponding to amino acid residues around tyrosine 53 of human  $\beta$  actin. This sequence is identical to similar regions in all four  $\alpha$  actins, as well as in  $\gamma$  actin, and is well conserved in actins from most eukaryotic species.

## **Buffer and Storage:**

Rabbit polyclonal, affinity-purified antibody is supplied in 100 $\mu$ l phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at  $-20^{\circ}\text{C}$ . Do not aliquot. Stable for 1 year.

## **Applications:**

WB 1:1,000

ICC 1:50

ELISA 1:2,000

End user should determine optimal dilution for their particular applications and experiments.  
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1hour at room temperature.

## **Specificity:**

This antibody detects a 42 kDa\* protein corresponding to the molecular mass of Actin on SDS-PAGE immunoblots of pervanadate treated human C2C12 and SYF cSrc transformed cells, but not in control cells. In addition, this antibody either detects actin cleavage products at 36 and 20 kDa, or cross-reacts with unidentified proteins at these molecular weights in C2C12 cells.

\*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

## **Related Products:**

AP1651 Actin (N-terminal Region) Rabbit Polyclonal  
AM2021 Actin (C-terminal region) Mouse Monoclonal  
TM1541  $\beta$ -Tubulin Mouse Monoclonal  
TP1721  $\beta$ -Tubulin (Ser-172), phospho-specific Rabbit Polyclonal  
TP1811 unphosphorylated  $\beta$ III-Tubulin (Ser-444) Rabbit Polyclonal  
AX1675 phospho-Actin (Tyr-53) Peptide

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Rev 4/10/2008