

# phospho-Actin (Tyr-53) Peptide

Cat. # AX1675

Size 50 µg

## **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 organisation 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

## **Peptide Sequence:**

Actin synthetic peptide (coupled to KLH) corresponding to amino acid residues in the N-terminal region 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:**

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide.  
Store at  $-20^{\circ}\text{C}$ . Stable for 1 year.

## **Applications:**

Blocking 1:1,000  
ELISA 50 ng/well

End user should determine optimal concentration dependent on the concentration of the antibody.  
Recommended for blocking antibody reactivity in Western blot and immunocytochemistry.  
ELISA established in 96-well Nunc immunoplates where peptide was bound to plates for 2 hrs in 0.1 M sodium carbonate buffer, pH 8.5.

## **Specificity:**

The peptide is specifically recognized by actin (Tyr-53) phospho-specific antibody (AP1671) in ELISA, and has been shown to block the reactivity of AP1671 in Western blot and immunocytochemistry.

## **Related Products:**

- AP1671 Actin (Tyr-53), phospho-specific Rabbit Polyclonal  
AP1651 Actin (N-terminal Region) Rabbit Polyclonal  
AM2021 Actin (C-terminal region) Mouse Monoclonal

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