

Product Data Sheet

Product Name: Anti-Actin alpha, smooth muscle Antibody

Catalog Number: 29553

Lot Number: See label on vial

Product Description: This polyclonal antibody is supplied as an epitope affinity purified rabbit

IgG, 50 µg in 250 µl of phosphate buffered saline (pH 7.4) containing

0.05% sodium azide.

Immunogen: Rabbit Anti-Actin alpha, smooth muscle polyclonal antibody was raised

against a synthetic peptide corresponding to the N-terminus of human

smooth muscle actin.

Species Reactivity: The species reactivity is exclusive to human and mouse. The reactivity of

Anti-Actin alpha, smooth muscle was confirmed by ELISA. The specificity was confirmed by Western blot analysis in 3T3 cell lysate and mouse

heart tissue lysate.

Application Notes: The following concentration ranges are recommended starting points for

this product.

ELISA for immunizing peptide: 1:5,000-20,000 WB: 1:500-2,000

IHC: 1:50-200 for 10 min

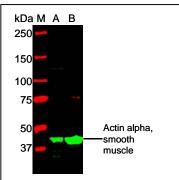
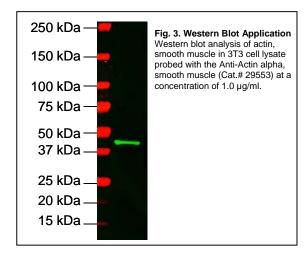


Fig. 1. Western Blot Application
Western blot analysis of actin, smooth
muscle in the 3T3 cell lysate (A) and
mouse heart tissue lysate (B) probed
with the Anti-Actin alpha, smooth muscle
(Cat.# 29553). Immunoreactive bands
were detected at 42 kDa in both lysates.



Fig. 2. Immunohistochemistry ApplicationHuman Leiomyoma stained with Anti-Actin (Cat.# 29553) by IHC Histain Kit-AEC. The formalin-fixed tissues were boiled in 10 mM citrate buffer, pH 6.0 for 10 min, followed by cooling at RT for 20 min, and then probed at a dilution of 1:100 for 10 min at room temperature.



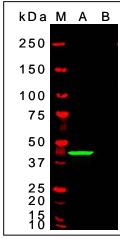


Fig. 4. Western Blot Application
Western blot analysis of actin alpha,
smooth muscle in 3T3 cell lysate probed
with the Anti-Actin alpha, smooth muscle
(Cat.# 29553) at a concentration of 1
ug/ml. An immunoreactive band was
detected in the lysate (A); the band was
blocked by the immunizing peptide (B).
Hilyte fluorTM 750 –conjugated
secondary antibody was used and the
signals were detected with an infraredimaging system (Odyssey, Li-Cor, Inc.).

Background:

Actins are highly conserved proteins expressed in all eukaryotic cells. Actin filaments form part of the cytoskeleton and play essential roles in regulating cell shape and movement. Six distinct actin isotypes have been identified in mammalian cells (1). Each is encoded by a separated gene and is expressed in a developmentally regulated and tissue-specific manner, α and β -cytoplasmic actins are expressed in a wide variety of cells; whereas, expression of α -skeletal, α -cardiac, α -vascular, and γ enteric actins are more restricted to specialized muscle cell type. Smooth muscle α -actin is of further interest because it is one of a few genes whose expression is relatively restricted to vascular smooth muscle cells (2). Furthermore, expression of smooth muscle α -actin is regulated by hormones (3), cell proliferation (4), and altered by pathological conditions including oncogenic transformation (5) and atherosclerosis (6, 7).

Storage:

Store at 2-8°C for up to one year. Avoid repeated freezing and thawing.

References:

- 1. Buckingham, M. et al. Adv Exp Med 182, 333 (1985).
- 2. Reddy, S. et al. *J Biol Chem* **265**, 18683 (1990).
- 3. Hsu, C-Y et al. J Biol Chem 262, 9594 (1987).
- 4. Owens, G. et al. *J Cell Biol* **102**, 343 (1988).
- 5. Leavitt, J. et al. Nature 316, 840 (1985).
- 6. Gabbiani, G. et al. J Clin Invest 73, 148 (1984).
- 7. Skalli, O. et al. *J Cell Biol* **103**, 2787 (1986).

This product is for in vitro research use only.