

Mouse actin beta-cytoplasmic Monoclonal Antibody

Mouse anti actin beta-cytoplasmic

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA77509	Mouse	Chicken, Human, Mouse, Rabbit, Rat, Swine, Zebrafish	Western Blot, Immunohistochemistry, Immunohistochemistry

PRODUCT SYNONYMS

actin beta-cytoplasmic; Monoclonal Antibody; Mouse anti actin beta-cytoplasmic; anti-actin beta-cytoplasmic antibody

PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Chicken, Human, Mouse, Rabbit, Rat, Swine, Zebrafish
Clonality	Monoclonal
Isotype	IgG1
Clone Number	4C2
Specificity	4C2 is a Mouse monoclonal Ig1 antibody highly specific for beta-cytoplasmic actin.
Form/Format	Each vial contains 100 ul 1 mg/ml purified monoclonal antibody in PBS containing 0.09% sodium azide.
Applicable Applications for anti-actin beta-cytoplasmic antibody	WB (Western Blot), IHC (Immunohistochemistry), IHC (Immunohistochemistry)
Source Note	4C2 is a Mouse monoclonal IgG1 antibody derived by fusion of NS0 Mouse myeloma cells with spleen cells from a BALB/c Mouse immunized with a peptide comprising the N-terminal nonapeptide of beta-cytoplasmic actin with an acetylated N-terminus (Ac-DDDIAALVV-COOH) coupled to keyhole limpet hemocyanin through the cysteine residue. The antibody does not cross react with other actin isoforms.
Reactivity Note	The epitope recognized by alpha-SM1 is highly conserved. The antibody therefore cross-reacts with many species including protochordates, lower craniates and mammals.
Preparation and Storage	Store at 4 degree C, or in small aliquots at -20 degree C.

IMAGES



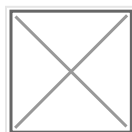
Application Data

Figure 3: Immunofluorescence staining of 1 month old zebrafish embryo



Application Data

Figure 2: Immunofluorescence staining of 3 days old zebrafish embryo



Application Data

Figure 1: Methanol fixed human dermal fibroblast immunostained with 4C2 (1:500)

ADDITIONAL INFORMATION

Related Product Information for anti-actin beta-cytoplasmic antibody	Among the six actin isoforms described in mammals, two are found in virtually all cells (beta- and gamma-cytoplasmic), two are detected in smooth muscle cells (alpha- and gamma-smooth muscle) and two are present in striated muscles, one predominantly in skeletal (alpha-skeletal) and one in cardiac (alpha-cardiac) muscle cells. These actin isoforms differ slightly in their N-terminus, but the sequence of each of these actins is highly conserved in higher vertebrates. beta- and gamma-cytoplasmic actin play crucial roles during various key cellular processes. Whereas beta-actin is preferentially localized in stress fibers, circular bundles and at cell-cell contacts, suggesting a role in cell attachment and contraction, gamma-actin displays a more versatile organization, according to cell activities. In moving cells, gamma-actin is mainly organized as a meshwork in cortical and lamellipodial structures, suggesting a role in cell motility. beta- and gamma-actin depleted fibroblasts exhibit distinct changes in motility compared with their controls, suggesting a specific role for each isoform in cell locomotion.
Product Categories/Family for anti-actin beta-cytoplasmic antibody	Cytoskeletal; Cytoskeleton; Stem cell research
References	Vandekerckhove, J. and Weber, K. (1978). At least six different actins are expressed in a higher mammal: an analysis based on the amino acid sequence of the amino-terminal tryptic peptide. J Mol Biol. 126(4), 783-802. Bassell, G.J., Zhang, H., Byrd, A.L., Femino, A.M., Singer, R.H., Taneja, K.L., Lifshitz, L.M., Herman, I.M. and Kosik, K.S. (1998). Sorting of beta-actin mRNA and protein to neurites and growth cones in culture. J Neurosci. 1998 18(1), 251-65. Dugina, V., Zwaenepoel, I., Gabbiani, G., Clément, S. and Chaponnier, C. (2009). beta- and gamma-cytoplasmic actins display distinct distribution and functional diversity. J Cell Sci 122, 2980-88. Gallant, C., Appel, S., Graceffa, P., Leavis, P., Lin, J.J., Gunning, P.W., Schevzov, G., Chaponnier, C., Degnore, J., Lehman, W. and Morgan, K.G. (2011). Tropomyosin variants describe distinct functional subcellular domains in differentiated vascular smooth muscle cells. Am J Physiol Cell Physiol. 300(6), 1356-65.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/monoclonal/actin-beta-cytoplasmic-antibody-clone-4c2-western-blot-immunohistochemistry-immunohistochemistry-elisa/77509>