



α -Smooth muscle actin (α -SM1; 1A4)

CATALOG NUMBER: MUB0100P

CLONE: 1A4

SPECIES / ISOTYPE: mouse IgG2a

PRODUCT FORM: purified monoclonal antibody

BACKGROUND

Among the six actin isoforms described in mammals, two are found in virtually all cells (β - and γ -cytoplasmic), two are detected in smooth muscle cells (α - and γ -smooth muscle) and two are present in striated muscles, one predominantly in skeletal (α -skeletal) and one in cardiac (α -cardiac) muscle cells. These actin isoforms differ slightly in their N-terminus and the sequences of each of them are perfectly conserved in higher vertebrates. Alpha-smooth muscle actin is abundant in vascular and visceral smooth muscle cells. In addition, it has also been shown to appear in stress fibers of fibroblastic cells during pathological situations involving contractile phenomena such as wound healing and fibrocontractive diseases.

SOURCE

α -SM1 (clone 1A4) is a mouse monoclonal IgG2a antibody derived by fusion of Sp 2/0 mouse myeloma cells with spleen cells from a BALB/c mouse immunized with a peptide comprising the first 10 amino acids of α -smooth muscle actin with an acetylated N-terminus coupled to keyhole limpet hemocyanin via the C-terminal cysteine (Ac-EEEDSTALVC).

PRODUCT

Each vial contains 100 μ l 1 mg/ml purified monoclonal antibody in PBS containing 0.09% sodium azide.

SPECIFICITY

α -SM1 reacts exclusively with α -smooth muscle actin which is typical for vascular and visceral smooth muscle cells, but which is also present in myofibroblasts. The epitope that is recognized by α -SM1 is Ac-EEED.

α -SM1 is useful for immunocytochemistry, immunohistochemistry on frozen and paraffin-embedded tissues, immunoblotting, immunoelectron microscopy and ELISA. Optimal antibody dilution should be determined by titration; recommended range is 1:1000 – 1:10.000 for immunohistochemistry with avidin-biotinylated

horseradish peroxidase complex (ABC) as detection reagent, and 1:10.000 – 1:50.000 for immunoblotting applications.

SPECIES REACTIVITY

The epitope recognized by α -SM1 is highly conserved. The antibody therefore cross-reacts with many species including protochordates, lower craniates and mammals (amongst others human, rat, chicken, goat, rabbit, mouse, swine).

STORAGE

Store at 4°C, **do not freeze.**

REFERENCES

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WARNING and CAUTION

This product is intended FOR RESEARCH USE ONLY, and FOR TESTS IN VITRO, not for use in diagnostic or therapeutic procedures involving humans or animals.

This product contains sodium azide. To prevent formation of toxic vapors, do not mix with strong acidic solutions. To prevent formation of potentially explosive metallic azides in metal plumbing, always wash into drain with copious quantities of water.

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