Product datasheet

anti-alpha-Smooth Muscle Actin mouse monoclonal, 1A4/ASM-1, liquid, purified, sample

Short overview

Cat. No.	690001S
Quantity	200 µl (100 µg/ml)
Concentration	100 µg/ml (20 µg)

Product description

Host	Mouse
Antibody Type	Monoclonal
Isotype	IgG2a
Clone	1A4/ASM-1
Immunogen	Synthetic N-terminus decapeptide of alpha-smooth-muscle isoform of actin
Formulation	PBS, pH 7.4 with 0.09% sodium azide and 0.5% BSA
UniprotID	P62739 (Bovine), P08023 (Chicken), P62736 (Human), P62737 (Mouse), P62738 (Rat)
Synomym	Actin, aortic smooth muscle, Alpha-actin-2, Cell growth-inhibiting gene 46 protein [Cleaved into: Actin, aortic smooth muscle, intermediate form], ACTA2, ACTSA, ACTVS, GIG46
Conjugate	Unconjugated
Purification	Affinity chromatography
Storage	Short term at 2-8°C; long term storage in aliquots at -20°C; avoid freeze/thaw cycles
Intended use	Research use only
Application	ICC/IF, IHC, WB
Reactivity	Bovine, Chicken, Horse, Human, Mouse, Rat

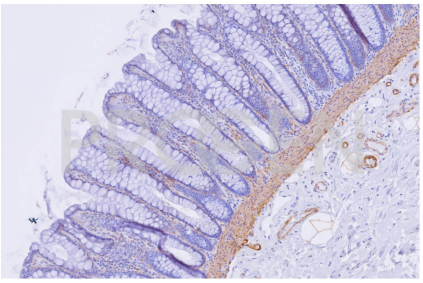
Applications

Immunocytochemistry (ICC)	Assay dependent
Immunohistochemistry (IHC) - frozen	1:200-1:1,000 (100-500 ng/ml)
Immunohistochemistry (IHC) - paraffin	1:200-1:1,000 (100-500 ng/ml, protease treatment and/or microwave treatment recommended)
Western Blot (WB)	1:1,000 (100 ng/ml)

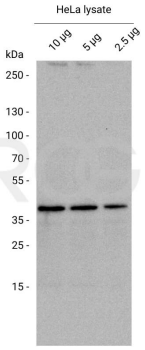
Background

1A4/ASM-1 represents an excellent marker for myogenic soft tissue tumors and smooth muscle differentiation. Polypeptide reacting: specific for alpha-smooth-muscle isoform of actin (43 kDa). Tumors specificallly detected: leiomyosarcoma, leiomyoma, certain stromal cells surrounding infiltrating ductal carcinoma of breast. Tested cultured cell lines: Stress fibers of smooth muscle-derived cells and some smooth muscle subtype fibroblasts

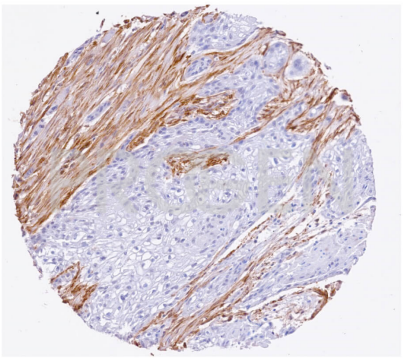
Product images



IHC analysis of human colon using anti-alpha-Smooth Muscle Actin antibody. IHC was performed on formalin fixed paraffin embedded sections. The samples were deparaffinized with xylol and ethanol followed by heat induced antigen retrieval with 10 mM citrate buffer. After preparation the tissue was blocked with normal serum for 20 min at RT. The primary antibody anti-alpha-Smooth Muscle Actin mouse monoclonal, 1A4/ASM-1 (Cat. No. 690001) was diluted in PBS (antibody concentration 400 ng/ml) and incubated at 4°C over-night. The secondary antibody ImmPRESS HRP anti-mouse IgG was incubated for 20 min at RT. Slides were incubated with DAB solution until a brown staining is visable and with Haemalaun for a few minutes. The 10x picture was acquired using microscopy (courtesy of J.Hess, University Hospital Heidelberg).



Western blot analysis of human HeLa cell lysate with anti-alpha-Smooth Muscle Actin antibody. Western blot analysis was performed on either 10 µg, 5 µg or 2.5 µg of HeLa lysate. Cells were lysed in PBS by homogenization. The PVDF membrane was blocked with 5% dry milk in PBST for 1 h at RT. The primary antibody anti-alpha-Smooth Muscle Actin mouse monoclonal, 1A4/ASM-1 (Cat. No. 690001) was diluted in blocking buffer (antibody concentration 0.1 µg/ml) and incubated for 1 h at RT. The secondary antibody goat anti-mouse IgG polyclonal, HRP conjugate was also diluted in blocking buffer (antibody concentration 0.2 µg/ml) and incubated for 1 h at RT. The bands were visualized by chemiluminescent detection using PierceTM ECL Western Blotting Substrate.



IHC analysis of head and neck squamous cell carcinoma using anti-alpha-Smooth Muscle Actin antibody. IHC was performed on formalin fixed paraffin embedded sections. The samples were deparaffinized with xylol and ethanol followed by heat induced antigen retrieval with 10 mM citrate buffer. After preparation the tissue was blocked with normal serum for 20 min at RT. The primary antibody anti-alpha-Smooth Muscle Actin mouse monoclonal, 1A4/ASM-1 (Cat. No. 690001) was diluted in PBS (antibody concentration 200 ng/ml) and incubated at 4°C over-night. The secondary antibody ImmPRESS HRP anti-mouse IgG was incubated for 20 min at RT. Slides were incubated with DAB solution until a brown staining is visable and with Haemalaun for a few minutes. The 10x picture was acquired using microscopy (courtesy of J.Hess, University Hospital Heidelberg).

References

Publication	Species	Application
Domke, L and Franke, W. The cell-cell junctions of mammalian testes.., Cell Tissue Res, 375, 451-482, (2019)	bovine	ICC-IF
Skalli, O. et al. A Monoclonal Antibody against a-Smooth Muscle Actin: A New Probe for Smooth Muscle Differentiation. J. Cell Biol. 103, 2787-2796 (1986).	human,rat,bovine,chicken	WB,IHC (frozen)
Steiniger, B. et al. Capillary networks and follicular marginal zones in human spleens. Three-dimensional models based on immunostained serial sections. PLoS.One. 13, e0191019 (2018).	human	IHC (paraffin)
Hempel, F. et al. Depletion of Bone Marrow-Derived Fibrocytes Attenuates TAA-Induced Liver Fibrosis in Mice. Cells. 8, (2019)	mouse	WB,IHC (paraffin)
Buniatian, G. et al. Antifibrotic Effects of Amyloid-Beta and Its Loss in Cirrhotic Liver. Cells. 9, (2020)	mouse	IHC-IF,IHC (paraffin)