

Anti-Alpha-Smooth Muscle Actin Antibody (Monoclonal, 1A4)

Catalog Number: MA1106

About ACTA2

Ueyama et al. (1990) assigned the ACTSA gene to chromosome 10 by Southern blot analysis of DNAs from 18 rodent-human somatic cell hybrids. Regional mapping by in situ hybridization localized the gene to 10q22-q24. Assignment of the vascular smooth muscle actin gene ACTSA to human chromosome. Smooth muscle alpha-actin gene requires two E-boxes for proper expression in vivo and is a target of class I basic helix-loop-helix proteins.

Overview

Product Name	Anti-Alpha-Smooth Muscle Actin Antibody (Monoclonal, 1A4)
Reactive Species	Human, Mouse, Rat
Description	Mouse IgG monoclonal antibody for alpha-Smooth Muscle Actin, actin, alpha 2, smooth muscle, aorta (ACTA2) detection. Tested with WB, IHC-P, IHC-F in Human; mouse; rat. No cross reactivity with other proteins.
Application	IHC, WB
Clonality	Monoclonal 1A4
Formulation	Mouse ascites fluid, 1.2% sodium acetate, 2mg BSA, with 0.01mg NaN ₃ as preservative.
Storage Instructions	At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.
Host	Mouse
Uniprot ID	P62738

Technical Details

Immunogen	N-terminal synthetic decapeptide of alpha-smooth muscle actin.
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Predicted Reactive Species	Chicken
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western blot, and HRP Conjugated anti-Mouse IgG Super Vision Assay Kit (SV0001-1) for IHC(P) and IHC(F).
Cross Reactivity	No cross reactivity with other proteins
Isotype	Mouse IgG2a
Form	Lyophilized
Concentration	Add 1ml of PBS buffer will yield a concentration of 100ug/ml.
Purification	Ascites
Suggested Dilutions	Immunohistochemistry(Paraffin-embedded Section), 0.1-0.5µg/ml, Human, mouse, rat, By Heat Immunohistochemistry(Frozen Section), 0.1-0.5µg/ml, Human, mouse, rat, - Western blot, 2µg/ml, Human, mouse, rat For protocols please visit https://www.bosterbio.com/protocol-and-troubleshooting/

Anti-Alpha-Smooth Muscle Actin Antibody (Monoclonal, 1A4) (MA1106) Images

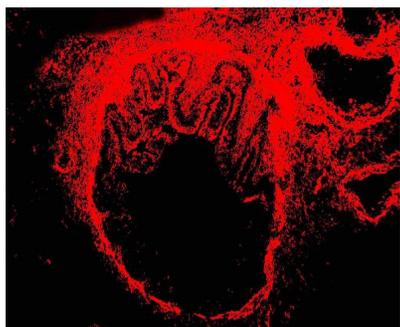
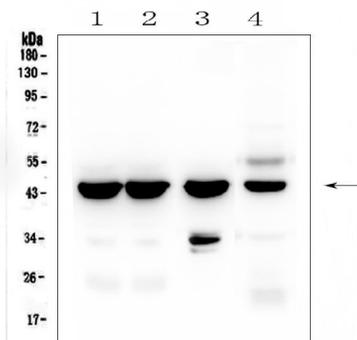


Figure 1. IHC analysis of Alpha-Smooth Muscle Actin using anti- Alpha-Smooth Muscle Actin antibody (MA1106). Alpha-Smooth Muscle Actin was detected in paraffin-embedded section of rat cardiac muscle tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1¼g/ml mouse anti- Alpha-Smooth Muscle Actin Antibody (MA1106) overnight at 4Å°C. Biotinylated goat anti- mouse IgG was used as secondary antibody and incubated for 30 minutes at 37Å°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1072) with DAB as the chromogen.

Figure 2. Western blot analysis of Alpha-Smooth Muscle Actin using anti- Alpha-Smooth Muscle Actin antibody (MA1106).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample



under reducing conditions.

Lane 1: human placenta tissue lysates,

Lane 2: human placenta tissue lysates,

Lane 3: rat stomach tissue lysates,

Lane 4: mouse stomach tissue lysates.

After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-Alpha-Smooth Muscle Actin antigen affinity purified monoclonal antibody (Catalog # MA1106) at 0.5 μ g/mL overnight at 4 $^{\circ}$ C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for Alpha-Smooth Muscle Actin at approximately 43KD. The expected band size for Alpha-Smooth Muscle Actin is at 43KD.

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