


## Mouse anti-human Smooth Muscle Actin (SMA) Monoclonal Antibody (Clone 1A4)

### REFERENCES AND PRESENTATIONS<sup>1</sup>

- **ready-to-use (ml)**  
MAD-001195QD-3  
MAD-001195QD-7  
MAD-001195QD-12
- **MD-Stainer presentations<sup>2</sup>**  
MAD-001195QD-3/V  
MAD-001195QD/V
- **concentrated**  
MAD-001195Q - 1:200 recommended dilution

### COMPOSITION

Anti-human SMA mouse monoclonal antibody purified from serum and prepared in 10mM PBS, pH 7.4, with 0.2% BSA and 0.09% sodium azide

**INTENDED USE**  Immunohistochemistry (IHC) on paraffin embedded tissues. Not tested on frozen tissues or Western-Blotting

**CLONE:** 1A4

**Ig ISOTYPE:** Rabbit IgG<sub>2a/k</sub>

**IMMUNOGEN:** N-Terminal decapeptide of alpha smooth muscle isoform of actin; acetylated at the N-terminus.

**SPECIES REACTIVITY:** In vitro diagnostics in humans. Not tested in other species

### DESCRIPTION AND APPLICATIONS:



Actin is a major component of the cytoskeleton and is present in every cell type. Actin can be resolved on the basis of its isoelectric points into three distinctive components: alpha, beta, and gamma in order of increasing isoelectric point. Anti-Smooth Muscle Actin antibody does not stain cardiac or skeletal muscle; however, it will stain myofibroblasts and myoepithelial cells. This antibody could be used together with Muscle Specific Actin to distinguish leiomyosarcoma from rhabdomyosarcoma. In most cases of rhabdomyosarcoma, this antibody gives negative results whereas Muscle Specific Actin is positive in the rhabdomyoblasts. Leiomyosarcomas are positive with both Muscle Specific Actin and Smooth Muscle Actin antibodies.

**IHC POSITIVE CONTROL:** Miometrium, colon

**VISUALIZATION:** Cell cytoplasm

### IHC RECOMMENDED PROCEDURE:

- 4µm thick section should be taken on charged slides; dry overnight at 60°C
- Deparaffinise, rehydrate and HIER (heat induced epitope retrieval) – boil tissue in the Pt Module using Master Diagnóstica CITRATE buffer pH6<sup>3</sup> for 20 min at 95°C. Upon completion rinse with 3-5 changes of distilled or deionised water followed by cooling at RT for 20 min
- Endogenous peroxidase block - Blocking for 10 minutes at room temperature using peroxidase solution (ref. MAD-021540Q-125)
- Primary antibody: incubate for 10 minutes [The antibody dilution (when concentrated) and protocol may vary depending on the specimen preparation and specific application. Optimal conditions should be determined by the individual laboratory]
- For detection use Master Polymer Plus Detection System (HRP) (DAB included; ref. MAD-000237QK)
- Counterstaining with haematoxylin and final mounting of the slide

**STORAGE AND STABILITY:**  up to 18 months;  stored at 2-8°C. Do not freeze.

### WARNINGS AND PRECAUTIONS:

1. Avoid contact of reagents with eyes and mucous membranes. If reagents come into contact with sensitive areas, wash with copious amounts of water.
2. This product is harmful if swallowed.
3. Consult local or state authorities with regard to recommended method of disposal.
4. Avoid microbial contamination of reagents.

### SAFETY RECOMMENDATIONS

This product is intended for laboratory professional use only. The product is NOT intended to be used as a drug or for domestic purposes. The current version of the Safety Data Sheet for this product can be downloaded by searching the reference number at [www.vitro.bio](http://www.vitro.bio) or can be requested at [regulatory.md@vitro.bio](mailto:regulatory.md@vitro.bio).

<sup>1</sup> These references are for presentation in vials of Low Density Polyethylene (LDPE) dropper. In case the products are used in automated stainers, a special reference is assigned as follows:

- / L: Cylindrical screw-cap vials (QD-3 / L, QD-7 / L, QD-12 / L).

- / N: Polygonal screw-cap vials (QD-3 / N, QD-7 / N, QD-12 / N).

For different presentations (references / volumes) please contact the supplier.

<sup>2</sup> For Technical specifications for MD-Stainer, please contact your distributor.

<sup>3</sup> Ref: MAD-004071R/D



**BIBLIOGRAPHY**

1. Cooke P. A filamentous cytoskeleton in vertebrate smooth muscle fibers. J Cell Biol. 1976 Mar;68(3):539-56
2. Skalli O, Ropraz P, Trzeciak A, Benzonana G, Gillesen D, Gabbiani G. A monoclonal antibody against alpha-smooth muscle actin: a new probe for smooth muscle differentiation. J Cell Biol. 1986 Dec;103(6 Pt 2):2787-96
3. Gown AM, Vogel AM, Gordon D, Lu PL. A smooth muscle-specific monoclonal antibody recognizes smooth muscle actin isozymes. J Cell Biol. 1985 Mar;100(3):807-13

