Datasheet: AHP1117

Description:	RABBIT ANTI BOVINE SMOOTH MUSCLE MYOSIN II
Specificity:	SMOOTH MUSCLE MYOSIN II
Format:	Purified
Product Type:	Polyclonal Antibody
Isotype:	Polyclonal IgG
Quantity:	0.5 ml

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry			▪	
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting	▪			1/150
Immunofluorescence	▪			

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

Target Species

Bovine

Species Cross Reactivity

Reacts with: Mouse
Based on sequence similarity, is expected to react with:Vertebrates
N.B. Antibody reactivity and working conditions may vary between species.

Product Form

Purified IgG - liquid

Antiserum Preparation

Antisera to bovine smooth muscle myosin II were raised by repeated immunisations of rabbits with highly purified antigen. Purified IgG prepared by ion exchange chromatography.

Buffer Solution

TRIS buffered saline

Preservative Stabilisers

0.006% Sodium Azide (NaN_3)

Immunogen

Bovine tracheal smooth muscle myosin.

Specificity

Rabbit anti Bovine Smooth Muscle Myosin II antibody recognizes the heavy chain of myosin II found in vertebrate smooth muscle, a non-striated muscle present in the walls of hollow organs, the

vasculature, the respiratory and gastrointestinal tracts, uterus, bladder and eye.

The structure of myosin II is fundamentally the same in all muscle types and consists of two heavy chains, each bound by 2 distinct, essential and regulatory light chains. The globular motor domain located at the N-terminal domain of the heavy chains, catalyzes ATP hydrolysis and interacts with actin, whilst the heptad repeat sequences of the heavy chain tail domains promote dimerization, forming an alpha-helical coiled coil at the C-terminal domain.

Rabbit anti Bovine Smooth Muscle Myosin II antibody does not cross-react with myosin of skeletal or non-muscle origin and can be used to specifically stain cultured smooth muscle cells and identify vascular and other smooth muscle types in tissue sections.

Western Blotting

Rabbit anti Bovine smooth muscle myosin II antibodiy recognizes a band of approximately 200 kDa in western blotting analysis of differentiating smooth muscle cell culture lysates (Margariti *et al.* 2009).
Loading controls:

Rat anti tubulin α, (MCA77G).

References

1. Xiao, Q. *et al.* (2011) Chromobox protein homolog 3 is essential for stem cell differentiation to smooth muscles in vitro and in embryonic arteriogenesis. Arterioscler Thromb Vasc Biol. 31: 1842-52.
2. Zhang, L. *et al.* (2010) Sp1-dependent activation of HDAC7 is required for platelet-derived growth factor-BB-induced smooth muscle cell differentiation from stem cells. J Biol Chem. 285 (49): 38463-72.
3. Margariti, A. *et al.* (2009) Splicing of HDAC7 modulates the SRF-myocardin complex during stem-cell differentiation towards smooth muscle cells. J Cell Sci. 122: 460-70.
4. Xiao, Q. *et al.* (2009) Embryonic stem cell differentiation into smooth muscle cells is mediated by Nox4-produced H_2O_2. Am J Physiol Cell Physiol. 296: C711-23.
5. Wang, G. *et al.* (2012) Functional impact of heterogeneous nuclear ribonucleoprotein A2/B1 in smooth muscle differentiation from stem cells and embryonic arteriogenesis. J Biol Chem. 287 (4): 2896-906.
6. Zheng, X. *et al.* (2013) Angiotensin II promotes differentiation of mouse embryonic stem cells to smooth muscle cells through PI3-kinase signaling pathway and NF-κB. Differentiation. 85: 41-54.
7. Jin, M. *et al.* (2016) MicroRNA-29a promotes smooth muscle cell differentiation from stem cells by targeting YY1 Stem Cell Research. Aug 2 [Epub ahead of print]
8. Yu, X. *et al.* (2015) Upregulated sirtuin 1 by miRNA-34a is required for smooth muscle cell differentiation from pluripotent stem cells. Cell Death Differ. 22 (7): 1170-80.

Further Reading

1. Rosenfeld, S.S. *et al.* (1998) Structural and kinetic studies of phosphorylation-dependent regulation in smooth muscle myosin. J Biol Chem. 273 (44): 28682-90.

Storage

Store at -20ºC only.
Storage in frost-free freezers is not recommended.
This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

Shelf Life

12 months from date of despatch.

Health And Safety Information

Material Safety Datasheet documentation available at:
Material Safety Datasheet Documentation #10057 available at:

https://www.bio-rad-antibodies.com/uploads/MSDS/10057.pdf

Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Sheep Anti Rabbit IgG (STAR34...)	FITC
Sheep Anti Rabbit IgG (STAR35...)	RPE
Goat Anti Rabbit IgG (H/L) (STAR124...)	HRP
Goat Anti Rabbit IgG (Fc) (STAR121...)	Biotin, FITC, HRP
Sheep Anti Rabbit IgG (2AB02...)	Biotin
Sheep Anti Rabbit IgG (STAR36...)	DyLight®488, DyLight®549, DyLight®649, DyLight®680, DyLight®800

Recommended Useful Reagents

TidyBlot™ WESTERN BLOT DETECTION REAGENT:HRP (STAR209P)

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