

Store at  
-20°C  
**#19245**

# α-Smooth Muscle Actin (D4K9N) XP® Rabbit mAb



**Support:** +1-978-867-2388 (U.S.)  
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**Entrez-Gene ID #59**  
**UniProt ID #P62736**

11/9/17

**For Research Use Only. Not For Use In Diagnostic Procedures.**

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IHC-P, IF-F Endogenous	H, M, R	42 kDa	Rabbit IgG**

**Background:** Actin proteins are major components of the eukaryotic cytoskeleton. At least six vertebrate actin isoforms have been identified. The cytoplasmic β- and γ-actin proteins are referred to as "non-muscle" actin proteins as they are predominantly expressed in non-muscle cells where they control cell structure and motility (1). The α-cardiac and α-skeletal actin proteins are expressed in striated cardiac and skeletal muscles, respectively. The smooth muscle α-actin and γ-actin proteins are found primarily in vascular smooth muscle and enteric smooth muscle, respectively. The α-smooth muscle actin (ACTA2) is also known as aortic smooth muscle actin. These actin isoforms regulate the contractile potential of muscle cells (1).

**Specificity/Sensitivity:** α-Smooth Muscle Actin (D4K9N) XP® Rabbit mAb recognizes endogenous levels of total α-smooth muscle protein.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human α-smooth muscle actin protein.

**Background References:**

(1) Herman, I.M. (1993) *Curr Opin Cell Biol* 5, 48-55.

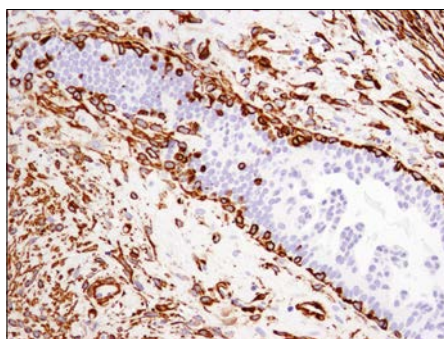
**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. *Do not aliquot the antibody.*

**\*Species cross-reactivity is determined by western blot.**  
**\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.**

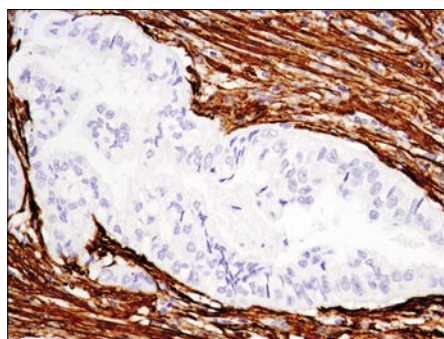
**Recommended Antibody Dilutions:**

Western blotting	1:1000
Immunoprecipitation	1:200
Immunohistochemistry (Paraffin)	1:640†
Unmasking buffer: <b>SignalStain® Citrate Unmasking Solution (10X) #14746</b>	
Antibody diluent: <b>SignalStain® Antibody Diluent #8112</b>	
Detection reagent: <b>SignalStain® Boost (HRP, Rabbit) #8114</b>	
† <i>Optimal IHC dilutions determined using SignalStain® Boost</i>	
Immunohistochemistry (Leica® Bond™)	1:200
Immunofluorescence (IF-F)	1:200

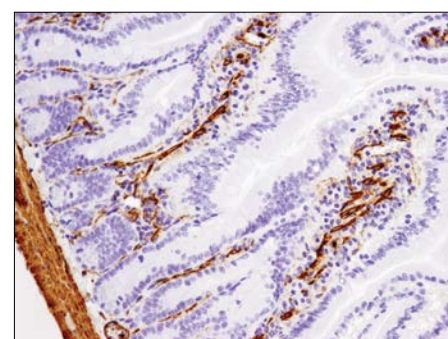
**For product specific protocols and a complete listing of recommended companion products please see the product web page at [www.cellsignal.com](http://www.cellsignal.com)**



Immunohistochemical analysis of paraffin-embedded human ductal carcinoma of the breast using α-Smooth Muscle Actin (D4K9N) XP® Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded human non-small cell lung carcinoma using α-Smooth Muscle Actin (D4K9N) XP® Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded mouse small intestine using α-Smooth Muscle Actin (D4K9N) XP® Rabbit mAb.

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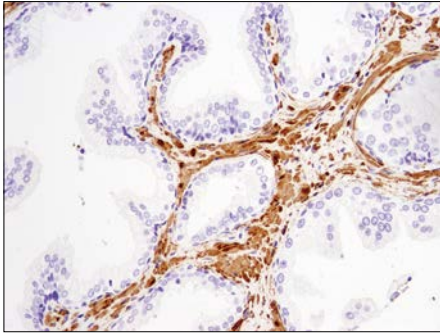
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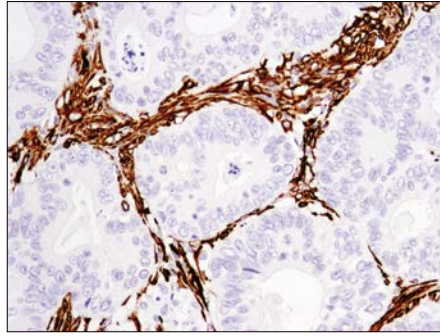
**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% BSA, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.**

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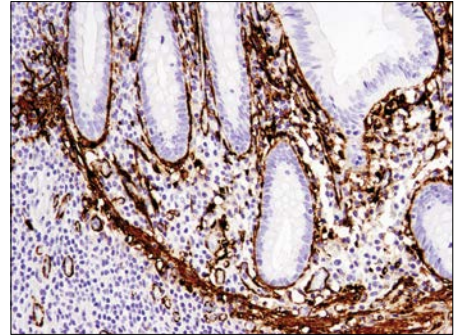
**Applications:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected **Species** enclosed in parentheses are predicted to react based on 100% homology.



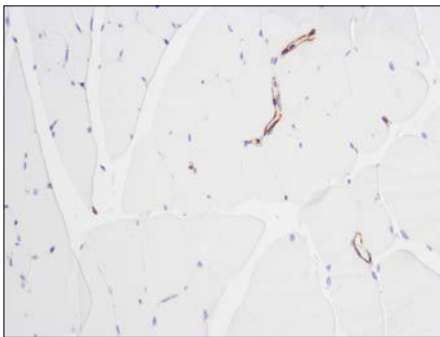
Immunohistochemical analysis of paraffin-embedded human prostate carcinoma using  $\alpha$ -Smooth Muscle Actin (D4K9N) XP<sup>®</sup> Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded human colon carcinoma using  $\alpha$ -Smooth Muscle Actin (D4K9N) XP<sup>®</sup> Rabbit mAb.

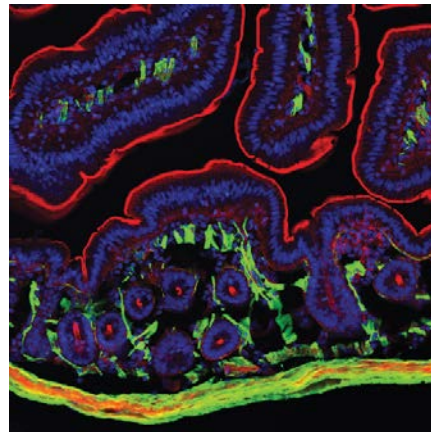


Immunohistochemical analysis of paraffin-embedded human appendix using  $\alpha$ -Smooth Muscle Actin (D4K9N) XP<sup>®</sup> Rabbit mAb.



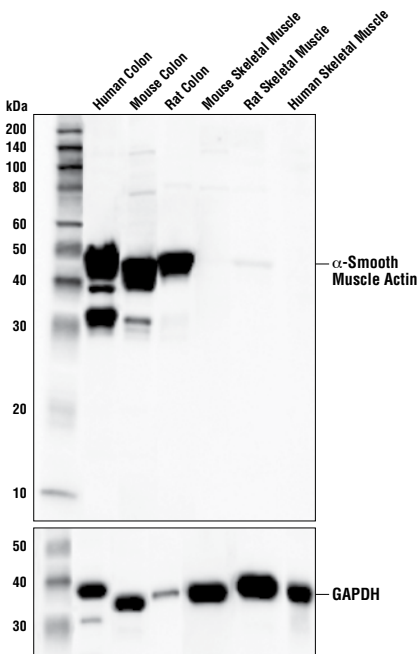
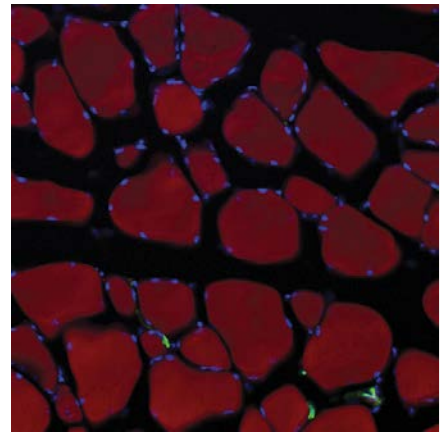
Immunohistochemical analysis of paraffin-embedded mouse skeletal muscle using  $\alpha$ -Smooth Muscle Actin (D4K9N) XP<sup>®</sup> Rabbit mAb.

### Small Intestine

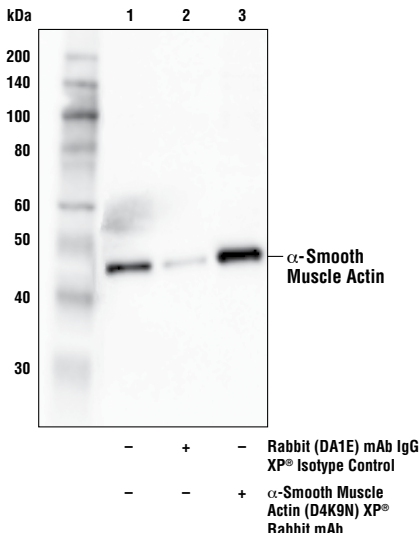


Confocal immunofluorescent analysis of mouse small intestine (left) and skeletal muscle (right) using  $\alpha$ -Smooth Muscle Actin (D4K9N) XP<sup>®</sup> Rabbit mAb (green). Actin filaments were labeled with DyLight<sup>™</sup> 554 Phalloidin #13054 (red). Blue pseudocolor = DRAQ5<sup>®</sup> #4084 (fluorescent DNA dye)

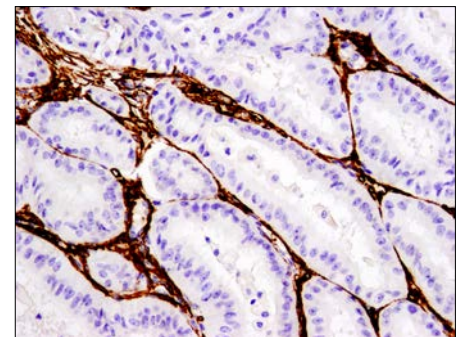
### Skeletal Muscle



Western blotting analysis of extracts from various human, mouse, and rat tissues using  $\alpha$ -Smooth Muscle Actin (D4K9N) XP<sup>®</sup> Rabbit mAb (upper) and GAPDH #5174 (lower). As expected, skeletal muscle samples are negative for  $\alpha$ -smooth muscle actin.



Immunoprecipitation of  $\alpha$ -smooth muscle actin from mouse colon tissue extracts. Lane 1 is 10% input, lane 2 is Rabbit (DA1E) mAb IgG XP<sup>®</sup> Isotype Control #3900, and lane 3 is  $\alpha$ -Smooth Muscle Actin (D4K9N) XP<sup>®</sup> Rabbit mAb. Western blot analysis was performed using  $\alpha$ -Smooth Muscle Actin (D4K9N) XP<sup>®</sup> Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded human endometrioid carcinoma using  $\alpha$ -Smooth Muscle Actin (D4K9N) XP<sup>®</sup> Rabbit mAb performed on the Leica<sup>®</sup> Bond<sup>™</sup> Rx.

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