

Store at  
4°C  
**#34105**

# $\alpha$ -Smooth Muscle Actin (D4K9N) XP<sup>®</sup> Rabbit mAb (Alexa Fluor<sup>®</sup> 488 Conjugate)



Support: +1-978-867-2388 (U.S.)  
www.cellsignal.com/support

Orders: 877-616-2355 (U.S.)  
orders@cellsignal.com

Entrez-Gene ID #59  
UniProt ID #P62736

rev. 03/20/18

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

**Applications**  
IF-F  
Endogenous

**Species Cross-Reactivity**  
H, M, R

**Isotype**  
Rabbit IgG

**Description:** This Cell Signaling Technology antibody is conjugated to Alexa Fluor<sup>®</sup> 488 fluorescent dye and tested in-house for direct immunofluorescent analysis in human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated  $\alpha$ -Smooth Muscle Actin (D4K9N) XP<sup>®</sup> Rabbit mAb #19245.

**Background:** Actin proteins are major components of the eukaryotic cytoskeleton. At least six vertebrate actin isoforms have been identified. The cytoplasmic  $\beta$ - and  $\gamma$ -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  $\alpha$ -cardiac and  $\alpha$ -skeletal actin proteins are expressed in striated cardiac and skeletal muscles, respectively. The smooth muscle  $\alpha$ -actin and  $\gamma$ -actin

proteins are found primarily in vascular smooth muscle and enteric smooth muscle, respectively. The  $\alpha$ -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:**  $\alpha$ -Smooth Muscle Actin (D4K9N) XP<sup>®</sup> Rabbit mAb (Alexa Fluor<sup>®</sup> 488 Conjugate) recognizes endogenous levels of total  $\alpha$ -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  $\alpha$ -smooth muscle actin protein.

**Storage:** Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

**Recommended Antibody Dilutions:**

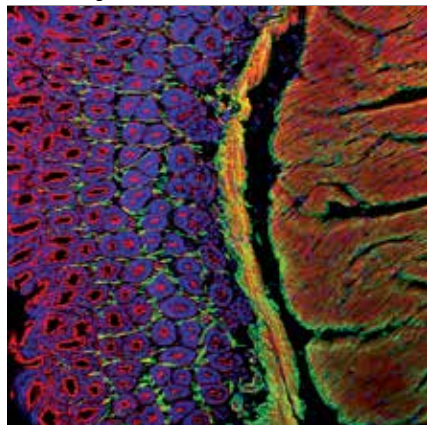
Immunofluorescence (IF-F) 1:50

**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)**

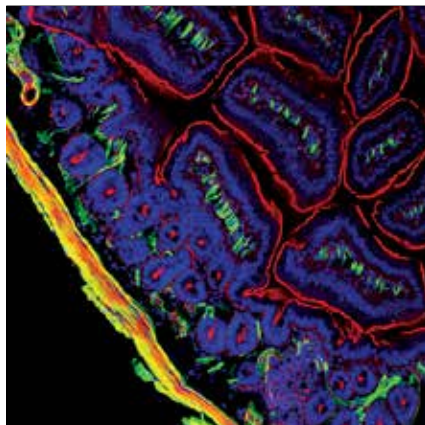
**Background References:**

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

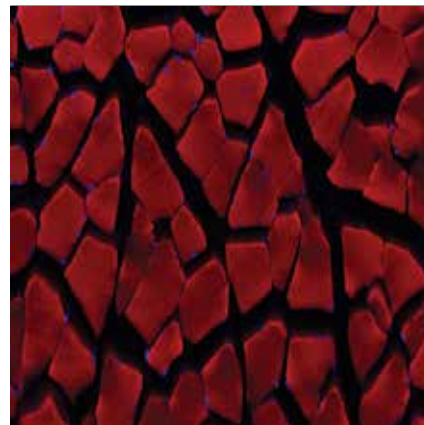
Mouse large intestine



Mouse small intestine



Mouse skeletal muscle



Confocal immunofluorescent analysis of mouse large intestine (left), mouse small intestine (middle), and mouse skeletal muscle (right) using  $\alpha$ -Smooth Muscle Actin (D4K9N) XP<sup>®</sup> Rabbit mAb (Alexa Fluor<sup>®</sup> 488 Conjugate) (green). Actin filaments were labeled with DyLight<sup>™</sup> 554 Phalloidin #13054 (red). Blue pseudocolor = DRAQ5 #4084 (fluorescent DNA dye).

Alexa Fluor is a registered trademark of Life Technologies Corporation.  
DRAQ5 is a registered trademark of Biostatus Limited.  
DyLight is a trademark of Thermo Fisher Scientific, Inc. and its subsidiaries.

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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.*