

# Alpha smooth muscle actin specific Recombinant monoclonal antibody

Catalog Number: 80008-2-RR

## Basic Information

|                               |                                                    |                                                                                          |
|-------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------|
| Catalog Number:<br>80008-2-RR | GenBank Accession Number:<br>NM_001613             | Purification Method:<br>Protein A purification                                           |
| Source:<br>Rabbit             | GeneID (NCBI):<br>59                               | CloneNo.:<br>250297G8                                                                    |
| Isotype:<br>IgG               | UNIPROT ID:<br>P62736                              | Recommended Dilutions:<br>WB: 1:5000-1:50000<br>IHC: 1:500-1:2000<br>IF-P: 1:1000-1:4000 |
|                               | Full Name:<br>actin, alpha 2, smooth muscle, aorta |                                                                                          |
|                               | Calculated MW:<br>42 kDa                           |                                                                                          |
|                               | Observed MW:<br>42 kDa                             |                                                                                          |

## Applications

### Tested Applications:

WB, IHC, IF-P, ELISA

### Species Specificity:

human, mouse, rat

**Note-IHC: suggested antigen retrieval with  
TE buffer pH 9.0; (\*) Alternatively, antigen  
retrieval may be performed with citrate  
buffer pH 6.0**

### Positive Controls:

WB : mouse colon tissue, rat colon tissue, mouse  
stomach tissue

IHC : human colon tissue,

IF-P : mouse kidney tissue, mouse heart tissue

## Background Information

Alpha smooth muscle actin ( $\alpha$ -SMA or ACTA2) is an actin isoform predominantly expressed in smooth muscle cells and is the most widely recognized marker for activated myofibroblasts. In healthy adult tissues, its expression is largely restricted to vascular and visceral smooth muscle. However, during tissue injury, fibrosis, or wound healing, fibroblasts differentiate into myofibroblasts with significant upregulation of  $\alpha$ -SMA. Therefore,  $\alpha$ -SMA serves as a critical immunohistochemical marker for detecting myofibroblast activation and studying pathological processes such as organ fibrosis (e.g., liver, kidney, lung) and cancer stroma remodeling.

## Storage

### Storage:

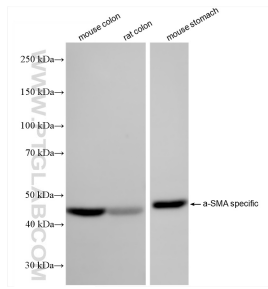
Store at -20°C. Stable for one year after shipment.

### Storage Buffer:

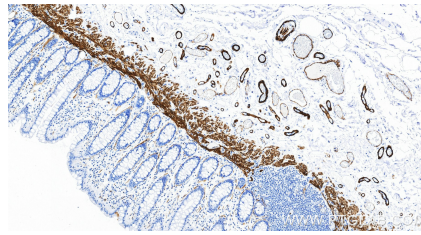
PBS with 0.02% sodium azide and 50% glycerol, pH7.3

Aliquoting is unnecessary for -20°C storage

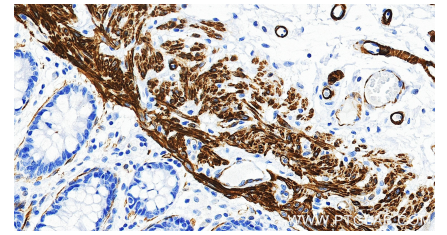
## Selected Validation Data



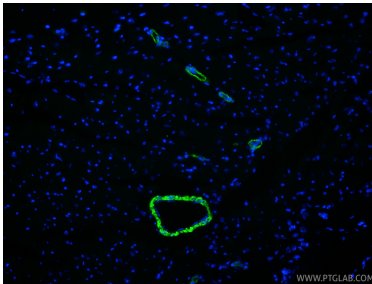
Various lysates were subjected to SDS PAGE followed by western blot with 80008-2-RR (a-SMA specific antibody) at dilution of 1:10000 incubated at room temperature for 1.5 hours.



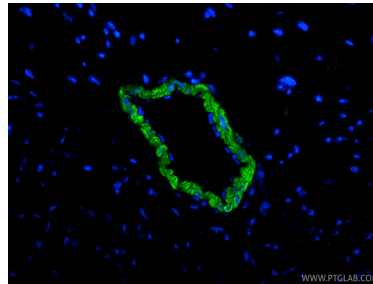
Immunohistochemical analysis of paraffin-embedded human colon tissue slide using 80008-2-RR (a-SMA specific antibody) at dilution of 1:1000 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



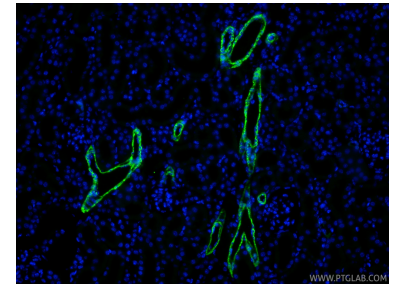
Immunohistochemical analysis of paraffin-embedded human colon tissue slide using 80008-2-RR (a-SMA specific antibody) at dilution of 1:1000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



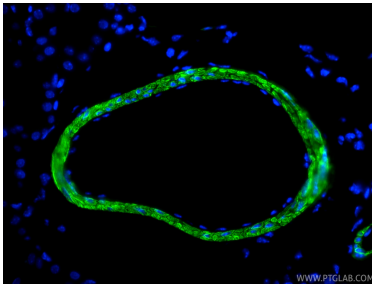
Immunofluorescent analysis of (4% PFA) fixed paraffin-embedded mouse heart tissue using a-SMA specific antibody (80008-2-RR, Clone: 250297G8) at dilution of 1:2000 and CoraLite@488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunofluorescent analysis of (4% PFA) fixed paraffin-embedded mouse heart tissue using a-SMA specific antibody (80008-2-RR, Clone: 250297G8) at dilution of 1:2000 and CoraLite@488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunofluorescent analysis of (4% PFA) fixed paraffin-embedded mouse kidney tissue using a-SMA specific antibody (80008-2-RR, Clone: 250297G8) at dilution of 1:2000 and CoraLite@488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunofluorescent analysis of (4% PFA) fixed paraffin-embedded mouse kidney tissue using a-SMA specific antibody (80008-2-RR, Clone: 250297G8) at dilution of 1:2000 and CoraLite@488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).