

### Anti-Smad2 antibody [5G7] ab119907

[6 References](#) [7 Images](#)

#### Overview

<b>Product name</b>	Anti-Smad2 antibody [5G7]
<b>Description</b>	Mouse monoclonal [5G7] to Smad2
<b>Host species</b>	Mouse
<b>Tested applications</b>	<b>Suitable for:</b> WB, ELISA, IHC-P, Flow Cyt, ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Human
<b>Immunogen</b>	Purified recombinant fragment of Human Smad2 expressed in <i>E. Coli</i> .
<b>Positive control</b>	Recombinant protein; Smad2-hlgGfc transfected HEK293 cell lysate; Human liver cancer and cerebellum tissues; U251 and NIH3T3 cells.
<b>General notes</b>	<p>This product was changed from ascites to supernatant. Lot no's high than GR163661-5 are from Tissue Culture Supernatant</p> <p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&amp;As</p>

#### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Store at -20°C long term.
<b>Storage buffer</b>	Preservative: 0.05% Sodium azide Constituent: PBS
<b>Purity</b>	Protein G purified
<b>Purification notes</b>	Purified from tissue culture supernatant.
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	5G7
<b>Isotype</b>	IgG1

## Applications

### The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab119907 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/500 - 1/2000. Detects a band of approximately 52 kDa (predicted molecular weight: 52 kDa).
ELISA		1/10000.
IHC-P		1/200 - 1/1000.
Flow Cyt		1/200 - 1/400. <b>ab170190</b> - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
ICC/IF		1/200 - 1/1000.

## Target

### Function

Receptor-regulated SMAD (R-SMAD) that is an intracellular signal transducer and transcriptional modulator activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinases. Binds the TRE element in the promoter region of many genes that are regulated by TGF-beta and, on formation of the SMAD2/SMAD4 complex, activates transcription. May act as a tumor suppressor in colorectal carcinoma.

### Tissue specificity

Expressed at high levels in skeletal muscle, heart and placenta.

### Sequence similarities

Belongs to the dwarfin/SMAD family.  
Contains 1 MH1 (MAD homology 1) domain.  
Contains 1 MH2 (MAD homology 2) domain.

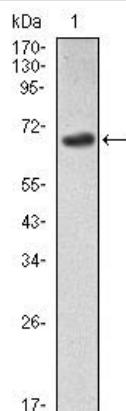
### Post-translational modifications

Phosphorylated on one or several of Thr-220, Ser-245, Ser-250, and Ser-255. In response to TGF-beta, phosphorylated on Ser-465/467 by TGF-beta and activin type 1 receptor kinases. Able to interact with SMURF2 when phosphorylated on Ser-465/467, recruiting other proteins, such as SNON, for degradation. In response to decorin, the naturally occurring inhibitor of TGF-beta signaling, phosphorylated on Ser-240 by CaMK2. Phosphorylated by MAPK3 upon EGF stimulation; which increases transcriptional activity and stability, and is blocked by calmodulin. In response to TGF-beta, ubiquitinated by NEDD4L; which promotes its degradation. Acetylated on Lys-19 by coactivators in response to TGF-beta signaling, which increases transcriptional activity. Isoform short: Acetylation increases DNA binding activity in vitro and enhances its association with target promoters in vivo. Acetylation in the nucleus by EP300 is enhanced by TGF-beta.

### Cellular localization

Cytoplasm. Nucleus. Cytoplasmic and nuclear in the absence of TGF-beta. On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4. On dephosphorylation by phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1.

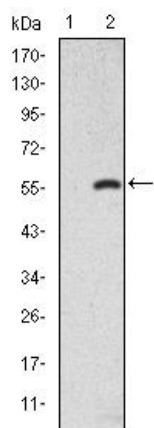
## Images



Western blot - Anti-Smad2 antibody [5G7]  
(ab119907)

Anti-Smad2 antibody [5G7] (ab119907) at 1/500 dilution +  
Recombinant Human Smad2 protein

**Predicted band size:** 52 kDa



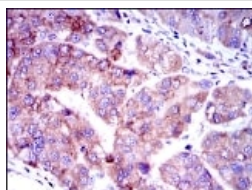
Western blot - Anti-Smad2 antibody [5G7]  
(ab119907)

**All lanes :** Anti-Smad2 antibody [5G7] (ab119907) at 1/500 dilution

**Lane 1 :** Non-transfected HEK293 cell lysate.

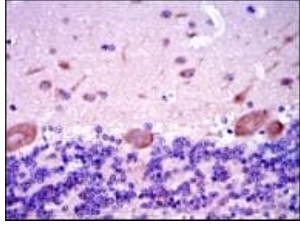
**Lane 2 :** Smad2-hlgGFc transfected HEK293 cell lysate.

**Predicted band size:** 52 kDa



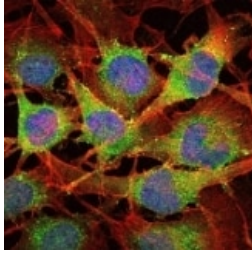
Immunohistochemistry (Formalin/PFA-fixed paraffin-  
embedded sections) - Anti-Smad2 antibody [5G7]  
(ab119907)

ab119907 at 1/200 dilution staining Smad2 in paraffin-embedded  
Human liver cancer tissues by Immunohistochemistry followed by  
DAB staining.



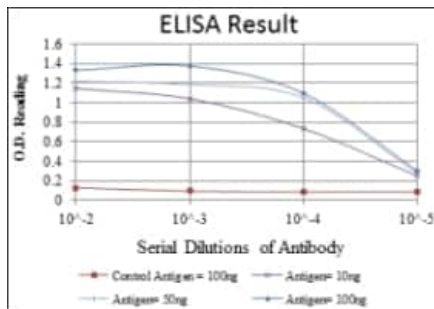
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Smad2 antibody [5G7] (ab119907)

ab119907 at 1/200 dilution staining Smad2 in paraffin-embedded Human cerebellum tissue by Immunohistochemistry followed by DAB staining.



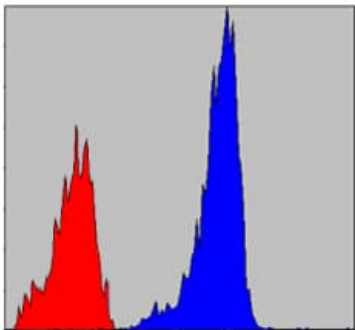
Immunocytochemistry/ Immunofluorescence - Anti-Smad2 antibody [5G7] (ab119907)

ab119907 at 1/200 dilution staining Smad2 in U251 cells by Immunofluorescence (green). Blue: DAPI fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.



ELISA - Anti-Smad2 antibody [5G7] (ab119907)

ELISA showing use of ab119907.



Flow Cytometry - Anti-Smad2 antibody [5G7] (ab119907)

ab119907 at 1/200 dilution staining Smad2 in NIH3T3 cells by Flow Cytometry (blue) and negative control (red).

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