


## Product datasheet

### Anti-Smg1 antibody ab30916

★★★★★ [3 Abreviews](#) [8 References](#) [3 Images](#)

#### Overview

<b>Product name</b>	Anti-Smg1 antibody
<b>Description</b>	Rabbit polyclonal to Smg1
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> ICC/IF, WB
<b>Species reactivity</b>	<b>Reacts with:</b> Human <b>Predicted to work with:</b> Mouse, Xenopus laevis 
<b>Immunogen</b>	Synthetic peptide conjugated to KLH derived from within residues 3600 - C-terminus of Human Smg1. Read Abcam's proprietary immunogen policy (Peptide available as <a href="#">ab31816</a> .)
<b>Positive control</b>	HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate, Jurkat (Human T cell lymphoblast-like cell line) Whole Cell Lysate, A431 (Human epithelial carcinoma cell line) Whole Cell Lysate.
<b>General notes</b>	<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). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	<p>pH: 7.40</p> <p>Preservative: 0.02% Sodium azide</p> <p>Constituent: PBS</p> <p>Batches of this product that have a concentration &lt; 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.</p>
<b>Purity</b>	Immunogen affinity purified

<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab30916 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
ICC/IF	★★★★★ (1)	
WB	★★★★★ (2)	

**Application notes**

ICC/IF: Use at 1:200 (See Abreview Feb 20 2007).  
 WB: Use at a concentration of 1 µg/ml. Detects a band of approximately 340 kDa (predicted molecular weight: 340 kDa).

Not yet tested in other applications.  
 Optimal dilutions/concentrations should be determined by the end user.

## Target

**Function**

Serine/threonine protein kinase involved in both mRNA surveillance and genotoxic stress response pathways. Recognizes the substrate consensus sequence [ST]-Q. Plays a central role in nonsense-mediated decay (NMD) of mRNAs containing premature stop codons by phosphorylating UPF1/RENT1. Recruited by release factors to stalled ribosomes together with SMG8 and SMG9 (forming the SMG1C protein kinase complex), and UPF1 to form the transient SURF (SMG1-UPF1-eRF1-eRF3) complex. In EJC-dependent NMD, the SURF complex associates with the exon junction complex (EJC) through UPF2 and allows the formation of an UPF1-UPF2-UPF3 surveillance complex which is believed to activate NMD. Also acts as a genotoxic stress-activated protein kinase that displays some functional overlap with ATM. Can phosphorylate p53/TP53 and is required for optimal p53/TP53 activation after cellular exposure to genotoxic stress. Its depletion leads to spontaneous DNA damage and increased sensitivity to ionizing radiation (IR). May activate PRKCI but not PRKCZ.

**Tissue specificity**

Widely expressed, with highest level in heart and skeletal muscle. Expressed in placenta, brain, lung and spleen, but not in liver.

**Sequence similarities**

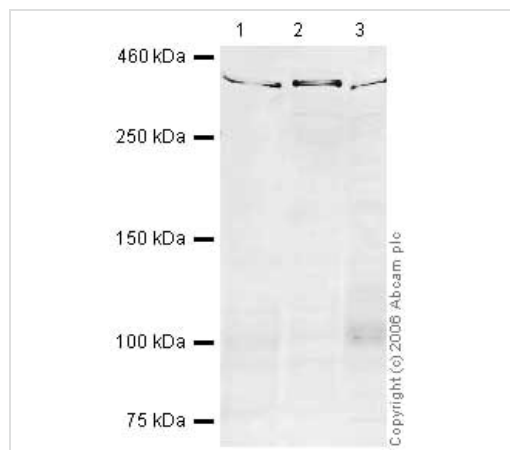
Belongs to the PI3/P4-kinase family.  
 Contains 1 FAT domain.  
 Contains 1 FATC domain.  
 Contains 1 HEAT repeat.  
 Contains 1 PI3K/P4K domain.

**Post-translational modifications**

Autophosphorylated.

**Cellular localization**

Nucleus. Cytoplasm.



Western blot - Anti-Smg1 antibody (ab30916)

**All lanes :** Anti-Smg1 antibody (ab30916) at 1 µg/ml

**Lane 1 :** HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate at 10 µg

**Lane 2 :** Jurkat whole cell lysate ([ab7899](#)) at 10 µg

**Lane 3 :** A-431 whole cell lysate ([ab7909](#)) at 20 µg

### Secondary

**All lanes :** IRDye 680 Conjugated Goat Anti-Rabbit IgG (H+L) at 1/15000 dilution

Performed under reducing conditions.

**Predicted band size:** 340 kDa

**Observed band size:** 340 kDa

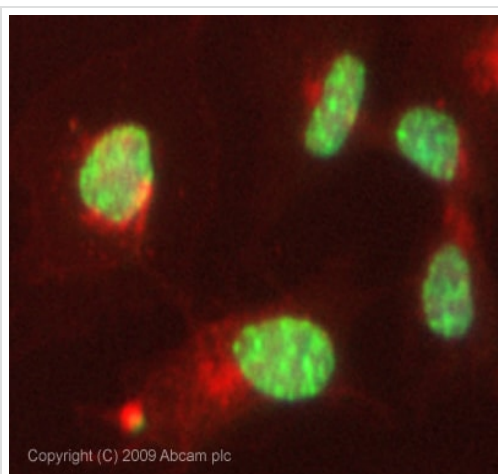
The band at 340kDa is likely to represent isoform 3 of Smg1. The immunogen is present in all three isoforms of Smg1.



Immunocytochemistry/ Immunofluorescence - Anti-Smg1 antibody (ab30916)

This image is courtesy of an Abreview submitted by Dr Kirk McManus

ab30916 (1/200) staining Smg1 by ICC/IF in asynchronous HeLa Cells (green). Cells were countersatined with DAPI (red) in order to show the nucleus. Secondary antibody: Goat anti-Rabbit conjugated to Cy3®. Please refer to abreview for further details.



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Immunocytochemistry/ Immunofluorescence - Anti-Smg1 antibody (ab30916)

ICC/IF image of ab30916 stained HepG2 cells. The cells were 4% PFA fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab30916, 5µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM. This antibody also gave a positive result in 4% PFA fixed (10 min) HeLa, Hek293 and MCF7 cells at 5µg/ml, and in 100% methanol fixed (5 min) HeLa, Hek293, HepG2 and MCF7 cells at 5µg/ml

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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