




## Product datasheet

### Anti-Sigma1-receptor antibody ab223702

KO **VALIDATED**

★★★★★ **1 Abreviews** [6 Images](#)

#### Overview

<b>Product name</b>	Anti-Sigma1-receptor antibody
<b>Description</b>	Rabbit polyclonal to Sigma1-receptor
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> WB, IHC-P
<b>Species reactivity</b>	<b>Reacts with:</b> Human <b>Predicted to work with:</b> Mouse, Rat, Guinea pig, Cow 
<b>Immunogen</b>	Recombinant fragment corresponding to Human Sigma1-receptor aa 1-100. Database link: <a href="#">Q99720</a>  <a href="#">Run BLAST with</a>  <a href="#">Run BLAST with</a>
<b>Positive control</b>	WB: HEK-293T, Caco-2 and HeLa cell lysate. IHC-P: Human liver tissue.
<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 long term. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.20 Preservative: 0.02% Sodium azide Constituents: 40% Glycerol (glycerin, glycerine), PBS
<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 ab223702 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)	Use a concentration of 0.04 - 0.4 µg/ml. Predicted molecular weight: 25 kDa.
IHC-P		1/20 - 1/50. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

## Target

### Function

Functions in lipid transport from the endoplasmic reticulum and is involved in a wide array of cellular functions probably through regulation of the biogenesis of lipid microdomains at the plasma membrane. Involved in the regulation of different receptors it plays a role in BDNF signaling and EGF signaling. Also regulates ion channels like the potassium channel and could modulate neurotransmitter release. Plays a role in calcium signaling through modulation together with ANK2 of the ITP3R-dependent calcium efflux at the endoplasmic reticulum. Plays a role in several other cell functions including proliferation, survival and death. Originally identified for its ability to bind various psychoactive drugs it is involved in learning processes, memory and mood alteration.

### Tissue specificity

Widely expressed with higher expression in liver, colon, prostate, placenta, small intestine, heart and pancreas. Expressed in the retina by retinal pigment epithelial cells.

### Involvement in disease

Amyotrophic lateral sclerosis 16, juvenile

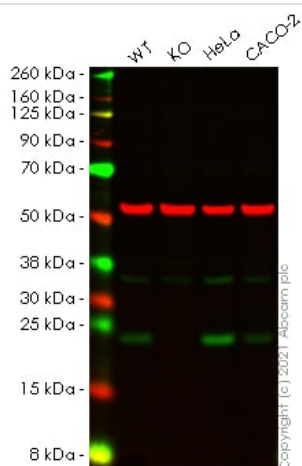
### Sequence similarities

Belongs to the ERG2 family.

### Cellular localization

Nucleus inner membrane. Nucleus outer membrane. Endoplasmic reticulum membrane. Lipid droplet. Cell junction. Cell membrane. Cell projection > growth cone. Targeted to lipid droplets, cholesterol and galactosylceramide-enriched domains of the endoplasmic reticulum. Enriched at cell-cell communication regions, growth cone and postsynaptic structures. Localization is modulated by ligand-binding.

## Images



Western blot - Anti-Sigma1-receptor antibody  
(ab223702)

**All lanes :** Anti-Sigma1-receptor antibody (ab223702) at 0.04  $\mu\text{g/ml}$

**Lane 1 :** Wild-type HEK-293T cell lysate

**Lane 2 :** SIGMAR1 knockout HEK-293T cell lysate

**Lane 3 :** HeLa cell lysate

**Lane 4 :** Caco-2 cell lysate

Lysates/proteins at 20  $\mu\text{g}$  per lane.

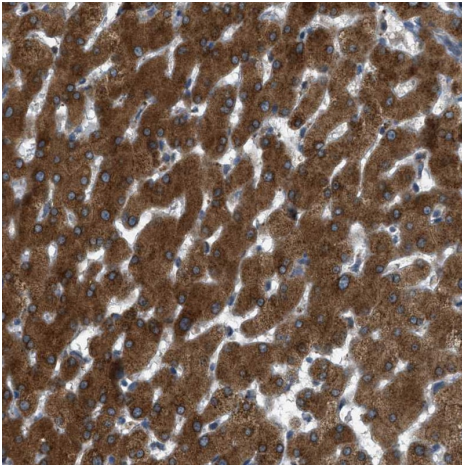
Performed under reducing conditions.

**Predicted band size:** 25 kDa

**Observed band size:** 24 kDa

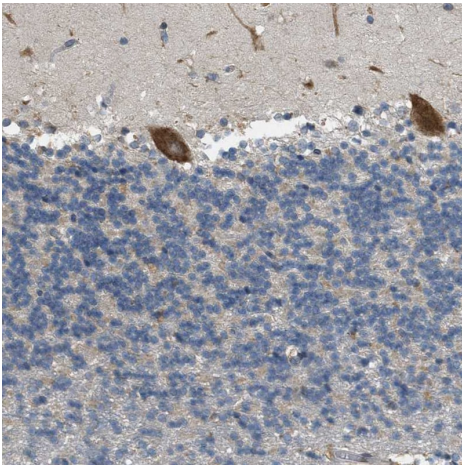
**Lanes 1 -4:** Merged signal (red and green). Green - ab223702 observed at 24 kDa. Red - loading control **ab7291** (Mouse anti-Alpha Tubulin [DM1A]) observed at 55 kDa.

ab223702 was shown to react with Sigma1-receptor in wild-type HEK-293T cells in Western blot with loss of signal observed in SIGMAR1 knockout cell line **ab266619** (SIGMAR1 knockout cell lysate **ab258666**). Wild-type HEK-293T and SIGMAR1 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab223702 and **ab7291** (Mouse anti-Alpha Tubulin [DM1A]) overnight at 4 °C at 0.04  $\mu\text{g/ml}$  and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (**ab216776**) secondary antibodies at 1 in 20000 dilution for 1 h at room temperature before imaging.



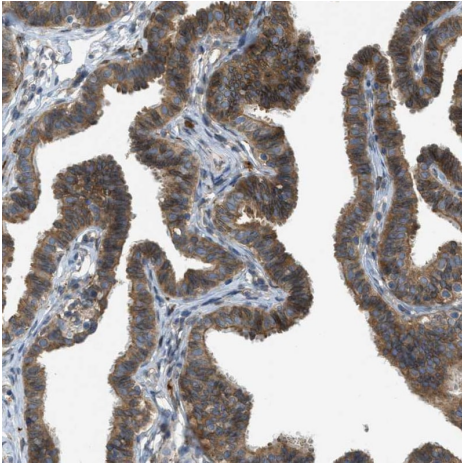
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sigma1-receptor antibody (ab223702)

Immunohistochemical analysis of Formalin fixed, Paraffin-embedded human liver tissue labeling Sigma 1-receptor with ab223702 at 1/20 dilution. Antigen retrieval was heat mediated with citrate buffer pH 6 before commencing with IHC staining protocol.



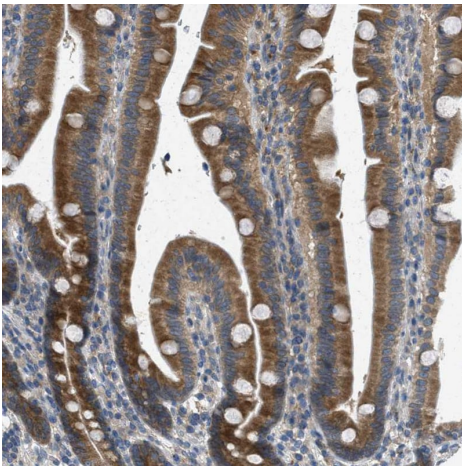
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sigma1-receptor antibody (ab223702)

Immunohistochemical analysis of Formalin fixed, Paraffin-embedded human cerebellum tissue labeling Sigma 1-receptor with ab223702 at 1/20 dilution. Antigen retrieval was heat mediated with citrate buffer pH 6 before commencing with IHC staining protocol.



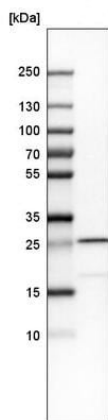
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sigma1-receptor antibody (ab223702)

Immunohistochemical analysis of Formalin fixed, Paraffin-embedded human Fallopian tube tissue labeling Sigma 1-receptor with ab223702 at 1/20 dilution. Antigen retrieval was heat mediated with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sigma1-receptor antibody (ab223702)

Immunohistochemical analysis of Formalin fixed, Paraffin-embedded human gastrointestinal tissue labeling Sigma 1-receptor with ab223702 at 1/20 dilution. Antigen retrieval was heat mediated with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-Sigma1-receptor antibody  
(ab223702)

Anti-Sigma1-receptor antibody (ab223702) at 1/100 dilution +  
HeLa (human epithelial cell line from cervix adenocarcinoma) cell  
lysate

**Predicted band size:** 25 kDa

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

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