


## Product datasheet

### Anti-EIF2S1 (phospho S51) antibody [E90] ab32157

Recombinant RabMAb

★★★★★ **25 Abreviews** **241 References** [13 Images](#)

#### Overview

<b>Product name</b>	Anti-EIF2S1 (phospho S51) antibody [E90]
<b>Description</b>	Rabbit monoclonal [E90] to EIF2S1 (phospho S51)
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> WB, IHC-P, Dot blot <b>Unsuitable for:</b> Flow Cyt, ICC/IF or IP
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human, Neurospora crassa <b>Predicted to work with:</b> Cow, Pig, Drosophila melanogaster, Monkey, Plants, African green monkey 
<b>Immunogen</b>	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
<b>Positive control</b>	IHC-P: Human liver carcinoma, breast carcinoma, cervical carcinoma, colon adenocarcinoma and hepatocellular carcinoma tissues. WB: HeLa cells treated with Clyculin A and phosphatase whole cell lysate; PC-12 cell lysate. Dot Blot: Antigen peptide.
<b>General notes</b>	This product is a recombinant monoclonal antibody, which offers several advantages including: <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> For more information <a href="#">see here</a> . Our RabMAb <sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a> .

#### 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. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol, 0.05% BSA
<b>Purity</b>	Protein A purified

<b>Clonality</b>	Monoclonal
<b>Clone number</b>	E90
<b>Isotype</b>	IgG

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab32157 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
<b>WB</b>	★★★★★ (19)	1/1000 - 1/10000. Detects a band of approximately 36 kDa (predicted molecular weight: 36 kDa).
<b>IHC-P</b>	★★★★★ (2)	1/50. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
<b>Dot blot</b>		1/500.

**Application notes** Is unsuitable for Flow Cyt, ICC/IF or IP.

## Target

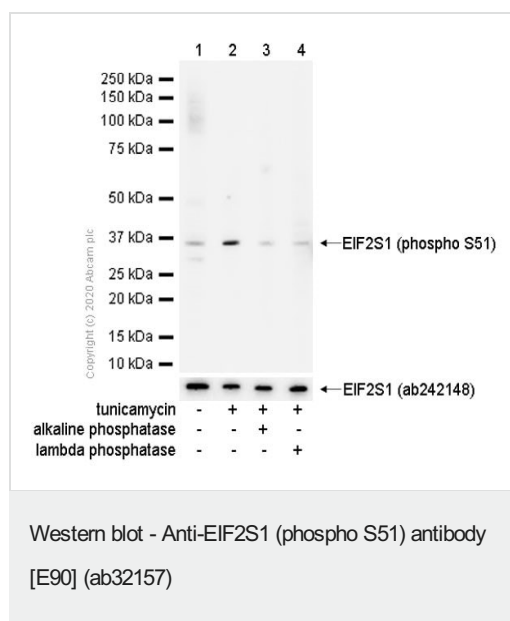
**Function** Functions in the early steps of protein synthesis by forming a ternary complex with GTP and initiator tRNA. This complex binds to a 40S ribosomal subunit, followed by mRNA binding to form a 43S preinitiation complex. Junction of the 60S ribosomal subunit to form the 80S initiation complex is preceded by hydrolysis of the GTP bound to eIF-2 and release of an eIF-2-GDP binary complex. In order for eIF-2 to recycle and catalyze another round of initiation, the GDP bound to eIF-2 must exchange with GTP by way of a reaction catalyzed by eIF-2B.

**Sequence similarities** Belongs to the eIF-2-alpha family.  
Contains 1 S1 motif domain.

**Post-translational modifications** Substrate for at least 4 kinases: EIF2AK1/HRI, EIF2AK2/PKR, EIF2AK3/PERK and EIF2AK4/GCN2. Phosphorylation stabilizes the eIF-2/GDP/eIF-2B complex and prevents GDP/GTP exchange reaction, thus impairing the recycling of eIF-2 between successive rounds of initiation and leading to global inhibition of translation (PubMed:15207627, PubMed:18032499). Phosphorylated; phosphorylation on Ser-52 by the EIF2AK4/GCN2 protein kinase occurs in response to amino acid starvation and UV irradiation.

**Cellular localization** Cytoplasmic granule. The cytoplasmic granules are stress granules which are a dense aggregation in the cytosol composed of proteins and RNAs that appear when the cell is under stress. Colocalizes with NANOS3 in the stress granules (By similarity).

## Images



**All lanes :** Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157) at 1/1000 dilution

**Lane 1 :** RAW 264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) Whole cell lysates

**Lane 2 :** RAW 264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) treated with 5 ug/ml tunicamycin for 18 hours whole cell lysates

**Lane 3 :** RAW 264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) treated with 5 ug/ml tunicamycin for 18 hours whole cell lysates. Then the membrane was incubated with alkaline phosphatase.

**Lane 4 :** RAW 264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) treated with 5 ug/ml tunicamycin for 18 hours whole cell lysates. Then the membrane was incubated with lambda phosphatase.

Lysates/proteins at 15 µg per lane.

## Secondary

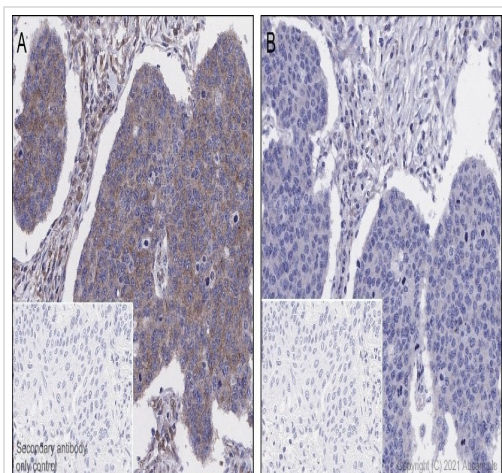
**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

**Predicted band size:** 36 kDa

**Observed band size:** 36 kDa

**Exposure time:** 180 seconds

Blocking/Diluting buffer and concentration 5% NFDM/TBST



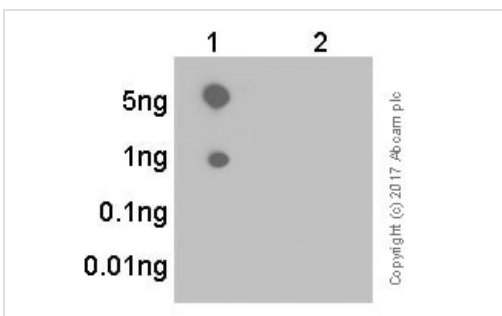
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157)

Immunohistochemical analysis of paraffin-embedded human lung cancer sections labeling EIF2S1 with ab32157 at 1/4000 dilution (0.37  $\mu$ g/mL). Hematoxylin was used as counterstain. Rabbit specific IHC polymer detection kit HRP/DAB ([ab209101](#)) was used as the secondary antibody. Antigen retrieval was heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) for 20 minutes.

Positive staining on human lung cancer without alkaline phosphatase treatment (image A). No staining on human lung cancer with alkaline phosphatase treatment (image B)

The section was incubated with ab32157 for 30 mins at room temperature.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument

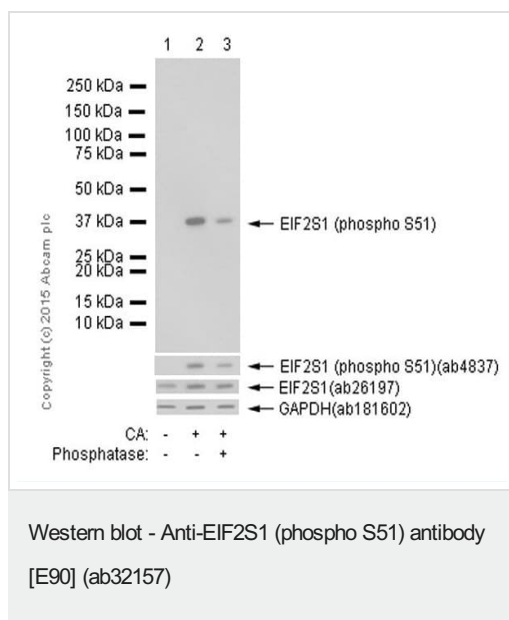


Dot Blot - Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157)

Dot blot analysis of EIF2S1 (pS51) phospho peptide (Lane 1), EIF2S1 non-phospho peptide (Lane 2) with ab32157 at a dilution of 1/1000. [ab97051](#) (Peroxidase conjugated goat anti-rabbit IgG (H+L)) was used as the secondary antibody at a dilution of 1/100000.

Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 3 minutes.



**All lanes** : Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157) at 1/20000 dilution

**Lane 1** : Untreated HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysates

**Lane 2** : HeLa treated with Calyculin A whole cell lysates

**Lane 3** : HeLa treated with Calyculin A and phosphatase whole cell lysates

Lysates/proteins at 20 µg per lane.

## Secondary

**All lanes** : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

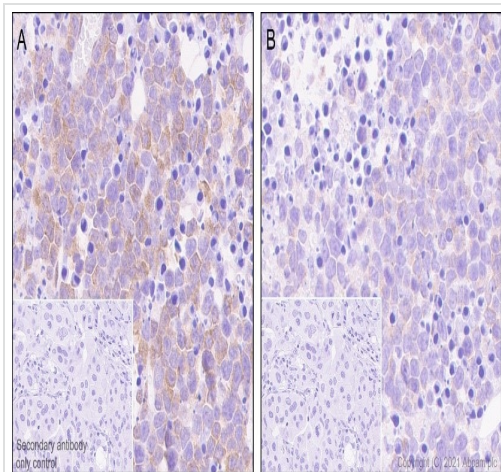
**Predicted band size:** 36 kDa

**Observed band size:** 36 kDa

Blocking buffer and concentration: 2% BSA/TBST.

Diluting buffer and concentration: 2% BSA /TBST.

Exposure time: 10 seconds

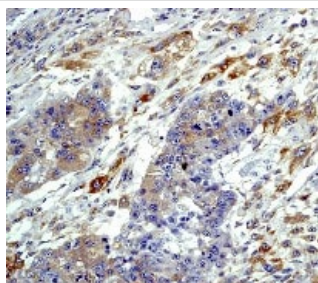


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157)

Immunohistochemical analysis of paraffin-embedded mouse pancreatic cancer sections labeling EIF2S1 with ab32157 at 1/4000 dilution (0.37  $\mu\text{g/mL}$ ). Hematoxylin was used as counterstain. Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) was used as the secondary antibody. Antigen retrieval was heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) for 20 minutes.

Positive staining on mouse pancreatic cancer without alkaline phosphatase treatment (image A). No staining on mouse pancreatic cancer with alkaline phosphatase treatment (image B). The section was incubated with ab32157 for 30 mins at room temperature.

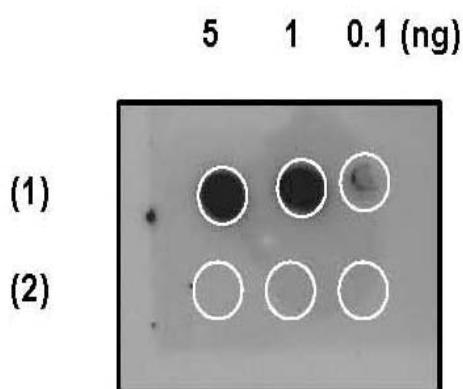
The immunostaining was performed on a Leica Biosystems BOND® RX instrument



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157)

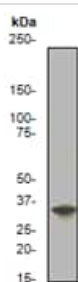
Immunohistochemical analysis of paraffin-embedded human liver carcinoma using ab32157 at 1/50 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Dot Blot - Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157)

Dot blot analysis on antigen peptide. A nitrocellulose membrane was spotted with (1) phospho-peptide and (2) non-phospho-peptide at 5, 1, and 0.1 ng, and then blotted with ab32157 at 1:500 dilution.



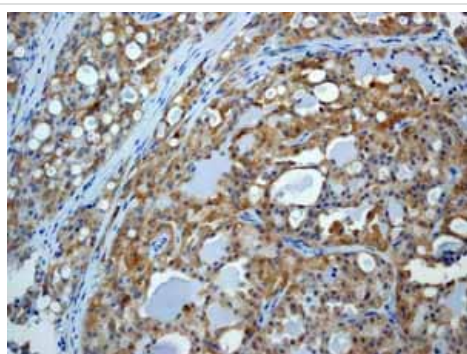
Western blot - Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157)

Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157) at 1/500 dilution + PC12 cell lysate

**Predicted band size:** 36 kDa

**Observed band size:** 36 kDa

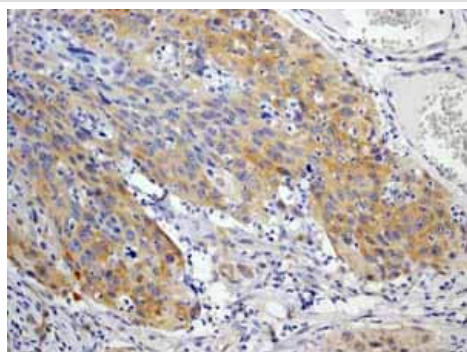
Secondary antibody - **anti-rabbit HRP (ab6721)**



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157)

ab32157 showing positive staining in Breast carcinoma tissue at 1/50 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

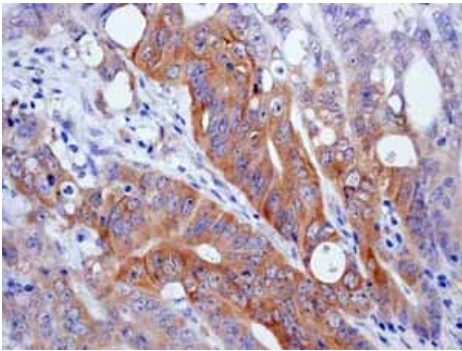


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157)

ab32157 showing positive staining in Cervical carcinoma tissue at 1/50 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

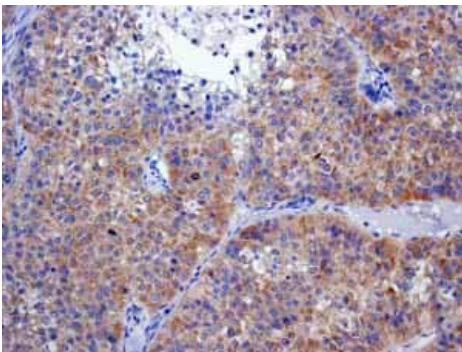




Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157)

ab32157 showing positive staining in Colonic adenocarcinoma tissue at 1/50 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157)

ab32157 showing positive staining in Hepatocellular carcinoma tissue at 1/50 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Anti-EIF2S1 (phospho S51) antibody [E90]  
(ab32157)



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

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