## Overview

<table>
<thead>
<tr>
<th>Product name</th>
<th>Anti-EIF2S1 (phospho S51) antibody [E90]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Rabbit monoclonal [E90] to EIF2S1 (phospho S51)</td>
</tr>
<tr>
<td>Host species</td>
<td>Rabbit</td>
</tr>
<tr>
<td>Specificity</td>
<td>The antibody only detects eIF-2a phosphorylated on Serine 51.</td>
</tr>
</tbody>
</table>
| Tested applications| Suitable for: ICC/IF, WB, IHC-P, Flow Cyt, Dot blot, IHC-Fr  
                    Unsuitable for: IP |
| Species reactivity | Reacts with: Mouse, Rat, Human, Drosophila melanogaster, Plants, African green monkey, Neurospora crassa  
                    Predicted to work with: Cow, Pig |
| Immunogen          | Synthetic peptide (the amino acid sequence is considered to be commercially sensitive) corresponding to Human EIF2S1 (phospho S51). (Peptide available as ab199382) |
| General notes      | Our RabMab® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMab® patents  
                    We are constantly working hard to ensure we provide our customers with best in class antibodies. As a result of this work we are pleased to now offer this antibody in purified format. We are in the process of updating our datasheets. The purified format is designated 'PUR' on our product labels. If you have any questions regarding this update, please contact our Scientific Support team.  
                    This product is a recombinant rabbit monoclonal antibody. |

### Properties

<table>
<thead>
<tr>
<th>Form</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage instructions</td>
<td>Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.</td>
</tr>
</tbody>
</table>
Storage buffer  
- pH: 7.20  
- Preservative: 0.01% Sodium azide  
- Constituents: 59% PBS, 40% Glycerol, 0.05% BSA

Purity  
- Protein A purified

Clonality  
- Monoclonal

Clone number  
- E90

Isotype  
- IgG

Applications

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.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICC/IF</td>
<td>⭐⭐⭐⭐⭐</td>
<td>1/100 - 1/250.</td>
</tr>
<tr>
<td>WB</td>
<td>⭐⭐⭐⭐⭐</td>
<td>1/500. Detects a band of approximately 36 kDa (predicted molecular weight: 36 kDa).</td>
</tr>
<tr>
<td>IHC-P</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>Flow Cyt</td>
<td></td>
<td>1/100. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.</td>
</tr>
<tr>
<td>Dot blot</td>
<td></td>
<td>1/500.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
</tbody>
</table>

**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**  

**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**

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

- **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

Paraformaldehyde-fixed human epithelial cells labeling EIF2SI using ab32157 at 1/100 dilution in ICC/IF, followed by an Alexa Fluor®647 conjugated goat anti-rabbit IgG.

The cells were blocked with BSA before incubation with the antibody for 1 hour.
Immunohistochemical analysis of paraffin-embedded human liver carcinoma using ab32157 at 1/50 dilution.

Overlay histogram showing HeLa cells stained with ab32157 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab32157, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1μg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.

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)

ab32157 showing positive staining in Breast carcinoma tissue.

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

ab32157 showing positive staining in Cervical carcinoma tissue.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EIF2S1 (phospho S51) antibody [E90] (ab32157)

ab32157 showing positive staining in Colonic adenocarcinoma tissue.

ab32157 showing positive staining in Hepatocellular carcinoma tissue.

Please note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"

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