

## Product datasheet

# Anti-Transferrin Receptor antibody [EPR4013] ab109259

**KO VALIDATED** Recombinant RabMAB

[1 References](#) [3 Images](#)

### Overview

<b>Product name</b>	Anti-Transferrin Receptor antibody [EPR4013]
<b>Description</b>	Rabbit monoclonal [EPR4013] to Transferrin Receptor
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> WB <b>Unsuitable for:</b> Flow Cyt or ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Immunogen</b>	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
<b>Positive control</b>	Human placenta, MCF7, and JAR lysates.
<b>General notes</b>	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <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> <p>For more information <a href="#">see here</a>.</p> <p>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>.</p> <p>Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.</p>

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
<b>Storage buffer</b>	<p>pH: 7.20</p> <p>Preservative: 0.05% Sodium azide</p> <p>Constituents: 0.1% BSA, 40% Glycerol (glycerin, glycerine), 9.85% Tris glycine, 50% Tissue culture supernatant</p>
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal

**Clone number**                      EPR4013  
**Isotype**                                IgG

## Applications

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**The Abpromise guarantee**        Our **Abpromise guarantee** covers the use of ab109259 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		1/10000 - 1/50000. Detects a band of approximately 90 kDa (predicted molecular weight: 84 kDa).

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

## Target

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**Function**                                Cellular uptake of iron occurs via receptor-mediated endocytosis of ligand-occupied transferrin receptor into specialized endosomes. Endosomal acidification leads to iron release. The apotransferrin-receptor complex is then recycled to the cell surface with a return to neutral pH and the concomitant loss of affinity of apotransferrin for its receptor. Transferrin receptor is necessary for development of erythrocytes and the nervous system (By similarity). A second ligand, the hereditary hemochromatosis protein HFE, competes for binding with transferrin for an overlapping C-terminal binding site. Positively regulates T and B cell proliferation through iron uptake (PubMed:26642240).  
(Microbial infection) Acts as a receptor for new-world arenaviruses: Guanarito, Junin and Machupo virus.

**Involvement in disease**                Immunodeficiency 46

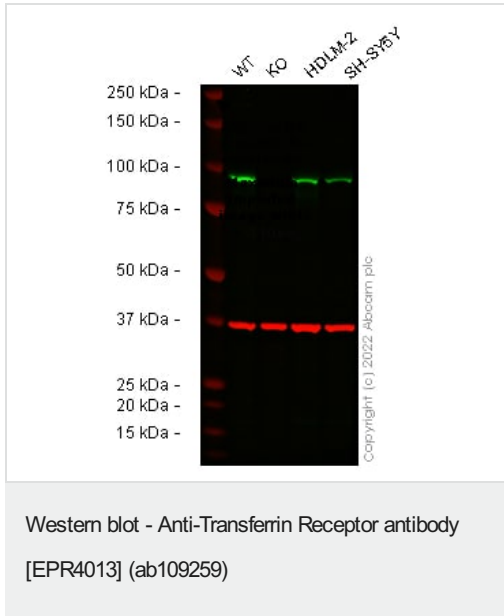
**Sequence similarities**                    Belongs to the peptidase M28 family. M28B subfamily.  
Contains 1 PA (protease associated) domain.

**Post-translational modifications**      N- and O-glycosylated, phosphorylated and palmitoylated. The serum form is only glycosylated. Proteolytically cleaved on Arg-100 to produce the soluble serum form (sTfR).  
Palmitoylated on both Cys-62 and Cys-67. Cys-62 seems to be the major site of palmitoylation.

**Cellular localization**                    Secreted and Cell membrane. Melanosome. Identified by mass spectrometry in melanosome fractions from stage I to stage IV.

## Images

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**All lanes :** Anti-Transferrin Receptor antibody [EPR4013] (ab109259) at 1/10000 dilution

**Lane 1 :** Wild-type K562 cell lysate

**Lane 2 :** TFRC knockout K562 cell lysate

**Lane 3 :** HDLM-2 cell lysate

**Lane 4 :** SH-SY5Y cell lysate

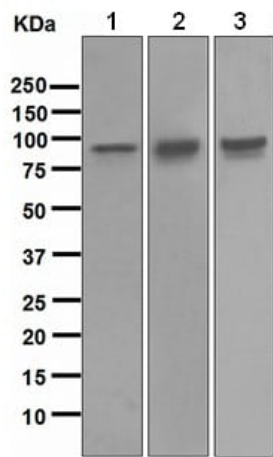
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

**Predicted band size:** 84 kDa

**Observed band size:** 90 kDa

Anti-Transferrin Receptor antibody [EPR4013] staining at 1/10000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] ([ab8245](#)) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab109259 was shown to bind specifically to Transferrin Receptor. A band was observed at 90 kDa in wild-type K562 cell lysates with no signal observed at this size in Tfrc knockout cell line. To generate this image, wild-type and Tfrc knockout K562 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.



**All lanes :** Anti-Transferrin Receptor antibody [EPR4013]  
(ab109259) at 1/10000 dilution

**Lane 1 :** Human placenta lysate

**Lane 2 :** MCF7 lysate

**Lane 3 :** JAR lysate

Lysates/proteins at 10 µg per lane.

**Predicted band size:** 84 kDa

**Observed band size:** 90 kDa

Western blot - Anti-Transferrin Receptor antibody  
[EPR4013] (ab109259)

### Why choose a recombinant antibody?

 <b>Research with confidence</b> Consistent and reproducible results	 <b>Long-term and scalable supply</b> Recombinant technology
 <b>Success from the first experiment</b> Confirmed specificity	 <b>Ethical standards compliant</b> Animal-free production

Anti-Transferrin Receptor antibody [EPR4013]  
(ab109259)

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

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