abcam

Product datasheet

# Anti-Glutathione Synthetase antibody [EPR6563] - BSA and Azide free ab236062

KO VALIDATED Recombinant RabMAb

5 Images

## Overview

| | |
|---|---|
| **Product name** | Anti-Glutathione Synthetase antibody [EPR6563] - BSA and Azide free |
| **Description** | Rabbit monoclonal [EPR6563] to Glutathione Synthetase - BSA and Azide free |
| **Host species** | Rabbit |
| **Tested applications** | **Suitable for:** Flow Cyt (Intra), IHC-P, WB |
| **Species reactivity** | **Reacts with:** Human<br>**Predicted to work with:** Mouse, Rat |
| **Immunogen** | Synthetic peptide. This information is proprietary to Abcam and/or its suppliers. |
| **Positive control** | 293T, HeLa, Daudi and HT-1080 cell lysates; Human colon tissue |
| **General notes** | ab236062 is the carrier-free version of **ab133592**.<br><br>Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency.<br><br>This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.<br><br>Use our **conjugation kits** for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.<br><br>This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.<br><br>This product is a recombinant monoclonal antibody, which offers several advantages including:<br>- High batch-to-batch consistency and reproducibility<br>- Improved sensitivity and specificity<br>- Long-term security of supply<br>- Animal-free production<br>For more information **see here**.<br><br>Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**. |

## Properties

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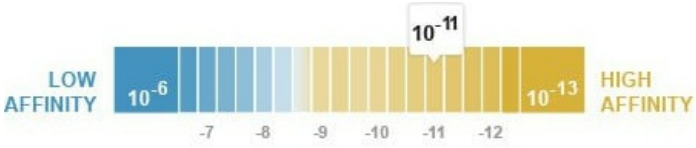
|---|---|
| **Form** | Liquid |
| **Storage instructions** | Shipped at 4°C. Store at +4°C. Do Not Freeze. |
| **Dissociation constant ($K_D$)** | $K_D = 2.74 \times 10^{-11}$ M |




Learn more about $K_D$

| | |
|---|---|
| **Storage buffer** | pH: 7.2<br>Constituent: PBS |
| **Carrier free** | Yes |
| **Purity** | Protein A purified |
| **Clonality** | Monoclonal |
| **Clone number** | EPR6563 |
| **Isotype** | IgG |

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab236062 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 |
|---|---|---|
| **Flow Cyt (Intra)** | | Use at an assay dependent concentration.<br>**ab172730** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. |
| **IHC-P** | | Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. |
| **WB** | | Use at an assay dependent concentration. Predicted molecular weight: 52 kDa. |

## Target

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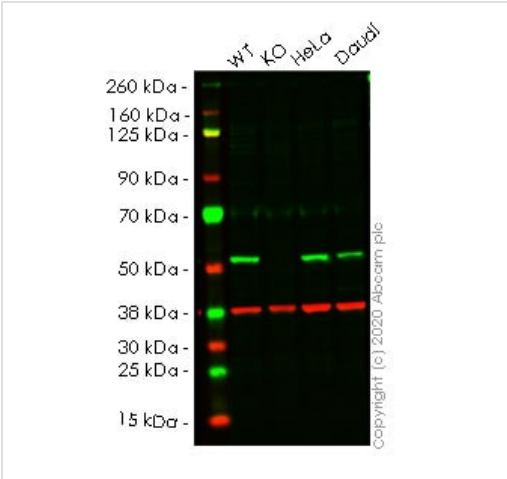
|---|---|
| **Pathway** | Sulfur metabolism; glutathione biosynthesis; glutathione from L-cysteine and L-glutamate: step 2/2. |
| **Involvement in disease** | Defects in GSS are the cause of glutathione synthetase deficiency (GSS deficiency) [MIM:266130]; also known as 5-oxoprolinuria or pyroglutamic aciduria. It is a severe form characterized by an increased rate of hemolysis and defective function of the central nervous system. |

| | |
|---|---|
| | Defects in GSS are the cause of glutathione synthetase deficiency of erythrocytes (GLUSYNDE) [MIM:231900]. Glutathione synthetase deficiency of erythrocytes is a mild form causing hemolytic anemia. |
| **Sequence similarities** | Belongs to the eukaryotic GSH synthase family. |

## Images




Western blot - Anti-Glutathione Synthetase antibody [EPR6563] - BSA and Azide free (ab236062)

**All lanes :** Anti-Glutathione Synthetase antibody [EPR6563] (**ab133592**) at 1/1000 dilution

**Lane 1 :** Wild-type HEK-293T cell lysate
**Lane 2 :** GSS knockout HEK-293T cell lysate
**Lane 3 :** HeLa cell lysate
**Lane 4 :** Daudi cell lysate

Lysates/proteins at 20 µg per lane.

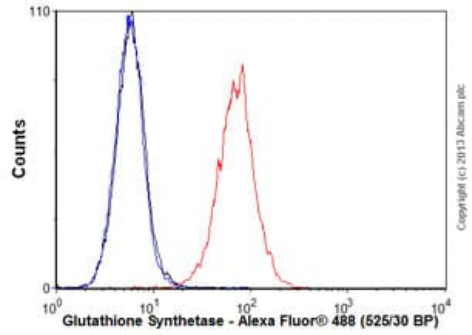
Performed under reducing conditions.

**Predicted band size:** 52 kDa
**Observed band size:** 50 kDa

This data was developed using the same antibody clone in a different buffer formulation (**ab133592**).

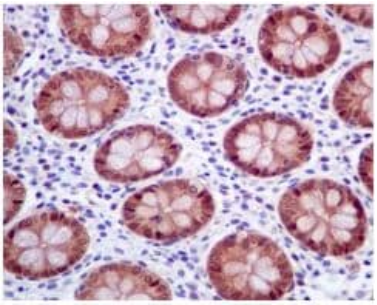
**Lanes 1- 4:** Merged signal (red and green). Green - **ab133592** observed at 50 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) observed at 37 kDa.

**ab133592** was shown to react with GSS in wild-type HEK-293T cells in western blot. Loss of signal was observed when knockout cell line **ab266342** (knockout cell lysate **ab257460**) was used. Wild-type HEK-293T and GSS knockout HEK-293T cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. **ab133592** and Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye®800CW) preadsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye®680RD) preadsorbed (**ab216776**) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.




Flow Cytometry (Intracellular) - Anti-Glutathione Synthetase antibody [EPR6563] - BSA and Azide free (ab236062)

Overlay histogram showing Jurkat cells stained with **ab133592** (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 (**ab133592**, 1/1000 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (**ab150077**) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x$10^6$ 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. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab133592**).

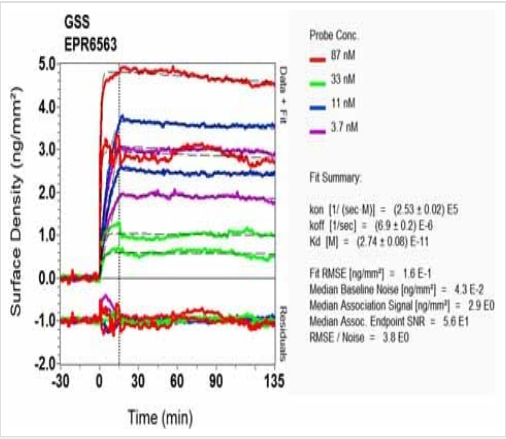


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glutathione Synthetase antibody [EPR6563] - BSA and Azide free (ab236062)

Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling Glutathione Synthetase with **ab133592** at 1/50 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab133592**).

Heat mediated antigen retrieval was performed with citrate buffer pH 6 before commencing with IHC staining protocol.




OI-RD Scanning - Anti-Glutathione Synthetase antibody [EPR6563] - BSA and Azide free (ab236062)

Equilibrium disassociation constant ($K_D$)

Learn more about $K_D$

**Click here to learn more about $K_D$**

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab133592**).


Anti-Glutathione Synthetase antibody [EPR6563] - BSA and Azide free (ab236062)



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