

Product datasheet

Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] α b210702

Recombinant RabMAb

[2 References](#) [13 Images](#)

Overview

Product name	Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668]
Description	Rabbit monoclonal [EPR20668] to Glucose 6 Phosphate Dehydrogenase
Host species	Rabbit
Tested applications	Suitable for: ICC/IF, Flow Cyt, IHC-P, WB, IP
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Recombinant fragment within Human Glucose 6 Phosphate Dehydrogenase aa 1-300. The exact sequence is proprietary. Database link: P11413
Positive control	WB: Rat brain, liver and spleen lysates; Mouse spleen and testis lysates; HeLa, C2C12, MCF7, RAW 264.7, C6, NIH/3T3 and PC-12 whole cell lysates. IHC-P: Human liver, hepatocellular carcinoma and gastric adenocarcinoma tissue; Mouse liver tissue; Rat liver tissue. ICC/IF: HeLa and MCF7 cells. Flow Cyt: HeLa cells. IP: HeLa whole cell lysate.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p> <p>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.</p> <p>Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.</p> <p>We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise[™] guarantee.</p> <p>In preparation for this, we have started to update the applications & species that this product is</p>

Abpromise guaranteed for.

We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. 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, as well as customer reviews and Q&As.

Properties

Form	Liquid
Storage instructions	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.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 0.05% BSA, 40% Glycerol, PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR20668
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab210702** 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
ICC/IF		1/100.
Flow Cyt		1/400.
IHC-P		1/2000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
WB		1/1000. Detects a band of approximately 59 kDa (predicted molecular weight: 59 kDa).
IP		1/40.

Target

Function Catalyzes the rate-limiting step of the oxidative pentose-phosphate pathway, which represents a route for the dissimilation of carbohydrates besides glycolysis. The main function of this enzyme is

to provide reducing power (NADPH) and pentose phosphates for fatty acid and nucleic acid synthesis.

Tissue specificity

Isoform Long is found in lymphoblasts, granulocytes and sperm.

Pathway

Carbohydrate degradation; pentose phosphate pathway; D-ribulose 5-phosphate from D-glucose 6-phosphate (oxidative stage): step 1/3.

Involvement in disease

Anemia, non-spherocytic hemolytic, due to G6PD deficiency

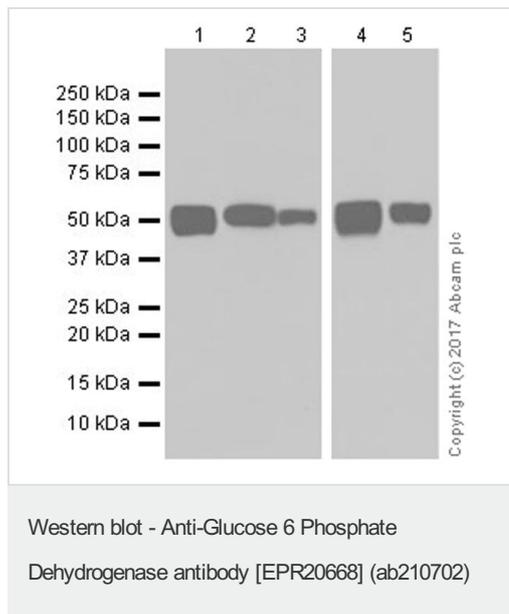
Sequence similarities

Belongs to the glucose-6-phosphate dehydrogenase family.

Post-translational modifications

Acetylated by ELP3 at Lys-403; acetylation inhibits its homodimerization and enzyme activity. Deacetylated by SIRT2 at Lys-403; deacetylation stimulates its enzyme activity.

Images



All lanes : Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] (ab210702) at 1/5000 dilution

Lane 1 : HeLa (human epithelial cell line from cervix adenocarcinoma cell line) whole cell lysate at 20 µg

Lane 2 : C2C12 (mouse myoblast cell line) whole cell lysate at 20 µg

Lane 3 : Mouse testis lysate at 20 µg

Lane 4 : MCF7 (human breast adenocarcinoma cell line) whole cell lysate at 10 µg

Lane 5 : RAW 264.7 (mouse macrophage cell line transformed with Abelson murine leukemia virus) whole cell lysate at 10 µg

Secondary

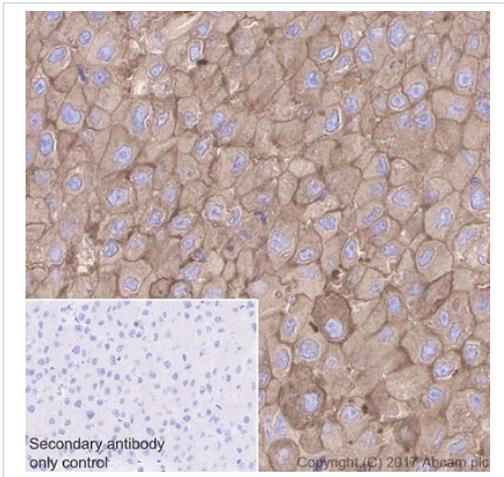
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 59 kDa

Observed band size: 59 kDa

Blocking/Dilution buffer: 5% NFDm/TBST.

Exposure times: Lanes 1/2/3: 3 minutes; Lanes 4/5: 3 seconds.

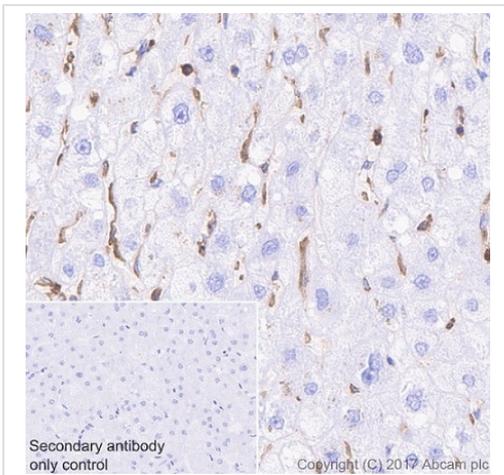


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] (ab210702)

Immunohistochemical analysis of paraffin-embedded human hepatocellular carcinoma tissue labeling Glucose 6 Phosphate Dehydrogenase with ab210702 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Staining on hepatocellular carcinoma (PMID: 24994855, PMID: 26583321). Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

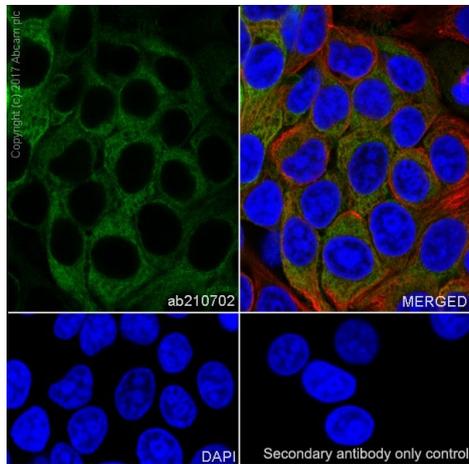


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] (ab210702)

Immunohistochemical analysis of paraffin-embedded human liver tissue labeling Glucose 6 Phosphate Dehydrogenase with ab210702 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Cytoplasmic staining on stroma of human liver (PMID: 24994855, PMID: 26583321). Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

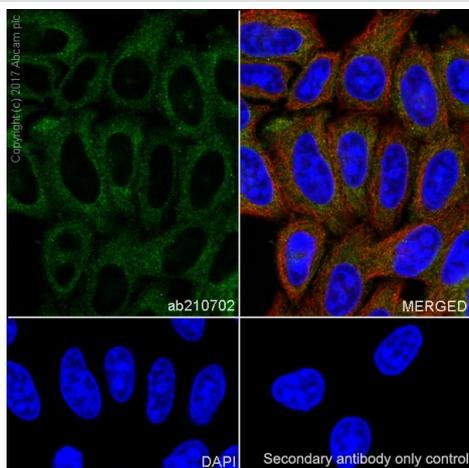


Immunocytochemistry/ Immunofluorescence - Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] (ab210702)

Immunofluorescent analysis of methanol-fixed MCF7 (human breast adenocarcinoma cell line) cells labeling Glucose 6 Phosphate Dehydrogenase with ab210702 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on MCF7 cell line.

The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (red) at 1/200 dilution.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.

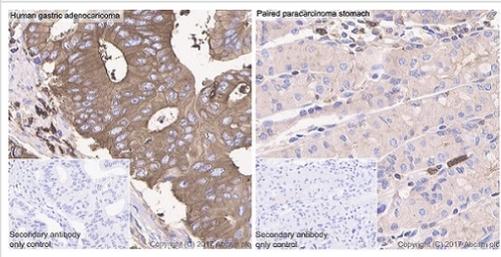


Immunocytochemistry/ Immunofluorescence - Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] (ab210702)

Immunofluorescent analysis of methanol-fixed HeLa (human epithelial cell line from cervix adenocarcinoma) cells labeling Glucose 6 Phosphate Dehydrogenase with ab210702 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on HeLa cell line.

The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (red) at 1/200 dilution.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.

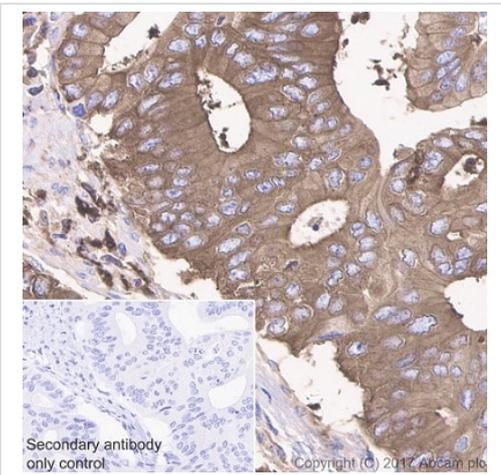


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] (ab210702)

Immunohistochemical analysis of paraffin-embedded human gastric adenocarcinoma tissue (left panel) and human gastric paracarcinoma (right panel) labeling Glucose 6 Phosphate Dehydrogenase with ab210702 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Strong cytoplasmic staining on human gastric adenocarcinoma, compared with weak cytoplasmic staining on the paired paracarcinoma stomach (PMID: 22012600). Both tissue sections are derived from the same patient sample. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

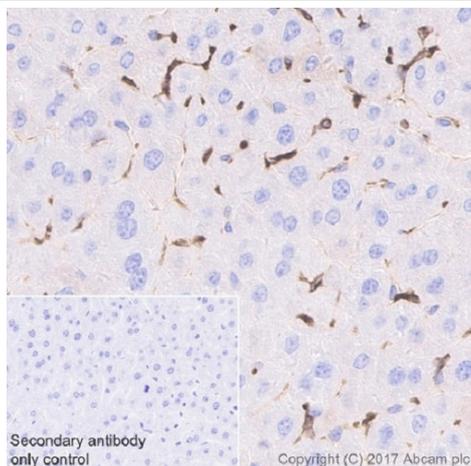


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] (ab210702)

Immunohistochemical analysis of paraffin-embedded human gastric adenocarcinoma tissue labeling Glucose 6 Phosphate Dehydrogenase with ab210702 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Strong cytoplasmic staining on human gastric adenocarcinoma (PMID: 22012600). Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

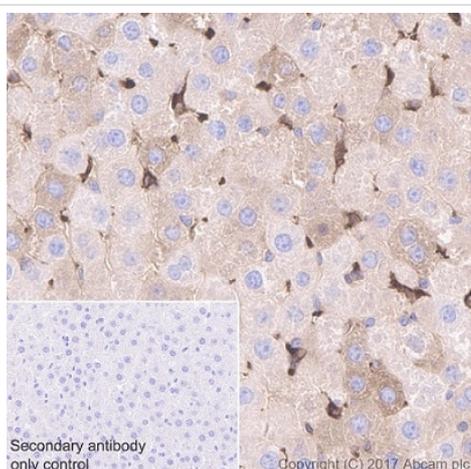


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] (ab210702)

Immunohistochemical analysis of paraffin-embedded mouse liver tissue labeling Glucose 6 Phosphate Dehydrogenase with ab210702 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Cytoplasmic staining on stroma of mouse liver (PMID: 24994855, PMID: 26583321). Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

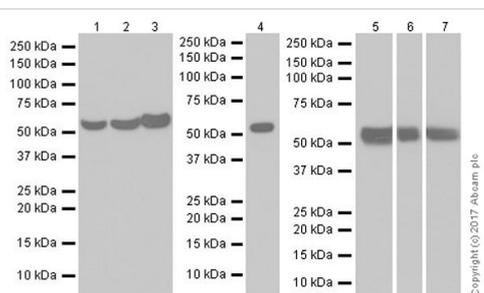


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] (ab210702)

Immunohistochemical analysis of paraffin-embedded rat liver tissue labeling Glucose 6 Phosphate Dehydrogenase with ab210702 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Cytoplasmic staining on rat liver (PMID: 24994855, PMID: 26583321). Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] (ab210702)

All lanes : Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] (ab210702) at 1/1000 dilution

Lane 1 : Rat brain lysate

Lane 2 : Rat liver lysate

Lane 3 : Rat spleen lysate

Lane 4 : Mouse spleen lysate

Lane 5 : C6 (rat glial tumor cell line) whole cell lysate

Lane 6 : NIH/3T3 (mouse embryo fibroblast cell line) whole cell lysate

Lane 7 : PC-12 (rat adrenal gland pheochromocytoma cell line) whole cell lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/100000 dilution

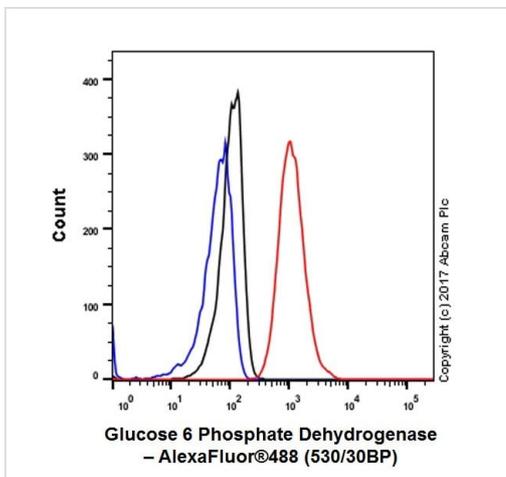
Predicted band size: 59 kDa

Observed band size: 59 kDa

Blocking/Dilution buffer: 5% NFD/MTBST.

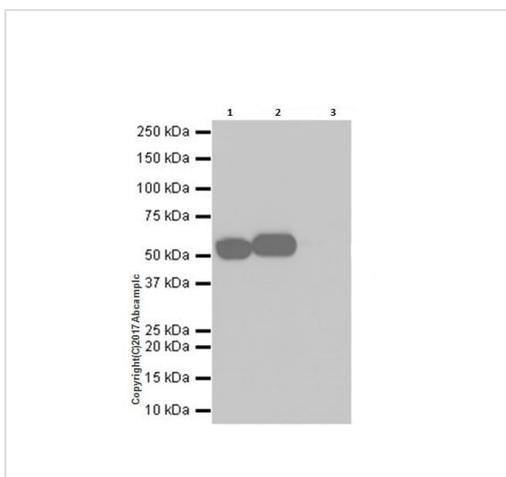
Exposure times: Lanes 1/2/3: 3 minutes; Lane 4: 15 seconds;

Lanes 5/6: 30 seconds; Lane 7: 15 seconds.



Flow Cytometry - Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] ([ab210702](#))

Flow cytometric analysis of 4% paraformaldehyde-fixed HeLa (human epithelial cell line from cervix adenocarcinoma) cell line labeling Glucose 6 Phosphate Dehydrogenase with [ab210702](#) at 1/400 (red) compared with an isotype control rabbit monoclonal IgG ([ab172730](#)) (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] ([ab210702](#))

Glucose 6 Phosphate Dehydrogenase was immunoprecipitated from 0.35mg of HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate with [ab210702](#) at 1/40 dilution. Western blot was performed from the immunoprecipitate using [ab210702](#) at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) ([ab131366](#)), was used for detection at 1/10000 dilution.

Lane 1: HeLa whole cell lysate 10 µg (Input).

Lane 2: [ab210702](#) IP in HeLa whole cell lysate.

Lane 3: Rabbit monoclonal IgG ([ab172730](#)) instead of [ab210702](#) in HeLa whole cell lysate.

Blocking/Dilution buffer: 5% NFD/MTBST.

Exposure time: 30 seconds.

Why choose a recombinant antibody?

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

Anti-Glucose 6 Phosphate Dehydrogenase antibody
[EPR20668] (ab210702)

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

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors