abcam

Product datasheet

Anti-GBA antibody [EPR5143(3)] ab128879

KO VALIDATED Recombinant RabMAb

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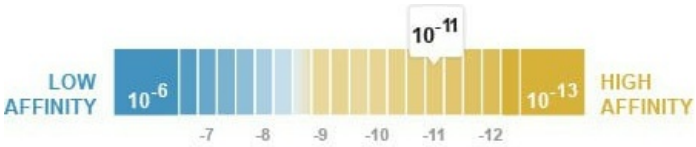
Overview

Product name	Anti-GBA antibody [EPR5143(3)]
Description	Rabbit monoclonal [EPR5143(3)] to GBA
Host species	Rabbit
Specificity	The lab re-tested the antibody in mouse samples without obtaining satisfactory results (tissue specific positive and negative results), therefore we are not able to guarantee the antibody in this species. Please contact our Scientific Support if you have any feedback in mouse.
Tested applications	**Suitable for:** WB, IHC-P **Unsuitable for:** Flow Cyt or IP
Species reactivity	**Reacts with:** Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: HeLa, Hap1, 293T, Saos-2, C6 and U87-MG cell lysates. IHC-P: Human kidney tissue.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. 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

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Dissociation constant (K_D)	$K_D = 2.28 \times 10^{-11}$ M



Learn more about K_D

Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR5143(3)
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab128879 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	★★★★☆ (3)	1/1000 - 1/10000. Predicted molecular weight: 60 kDa. We suggest using 2% BSA/TBST as blocking buffer and antibody diluting buffer if you cannot obtain strong band in some samples.
IHC-P		1/100 - 1/200. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. See **IHC antigen retrieval protocols**. **For unpurified use at 1/50.**

Application notes Is unsuitable for Flow Cyt or IP.

Target

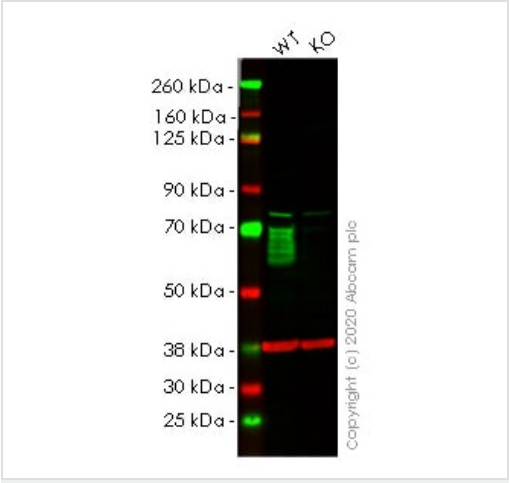
Involvement in disease Defects in GBA are the cause of Gaucher disease (GD) [MIM:230800]; also known as glucocerebrosidase deficiency. GD is the most prevalent lysosomal storage disease, characterized by accumulation of glucosylceramide in the reticulo-endothelial system. Different clinical forms are recognized depending on the presence (neuronopathic forms) or absence of central nervous system involvement, severity and age of onset.
Defects in GBA are the cause of Gaucher disease type 1 (GD1) [MIM:230800]; also known as adult non-neuronopathic Gaucher disease. GD1 is characterized by hepatosplenomegaly with consequent anemia and thrombopenia, and bone involvement. The central nervous system is not involved.
Defects in GBA are the cause of Gaucher disease type 2 (GD2) [MIM:230900]; also known as acute neuronopathic Gaucher disease. GD2 is the most severe form and is universally progressive and fatal. It manifests soon after birth, with death generally occurring before patients reach two years of age.
Defects in GBA are the cause of Gaucher disease type 3 (GD3) [MIM:231000]; also known as subacute neuronopathic Gaucher disease. GD3 has central nervous manifestations.
Defects in GBA are the cause of Gaucher disease type 3C (GD3C) [MIM:231005]; also known as pseudo-Gaucher disease or Gaucher-like disease.
Defects in GBA are the cause of Gaucher disease perinatal lethal (GDPL) [MIM:608013]. It is a distinct form of Gaucher disease type 2, characterized by fetal onset. Hydrops fetalis, in utero fetal

death and neonatal distress are prominent features. When hydrops is absent, neurologic involvement begins in the first week and leads to death within 3 months. Hepatosplenomegaly is a major sign, and is associated with ichthyosis, arthrogryposis, and facial dysmorphism. Note=Perinatal lethal Gaucher disease is associated with non-immune hydrops fetalis, a generalized edema of the fetus with fluid accumulation in the body cavities due to non-immune causes. Non-immune hydrops fetalis is not a diagnosis in itself but a symptom, a feature of many genetic disorders, and the end-stage of a wide variety of disorders.
Defects in GBA contribute to susceptibility to Parkinson disease (PARK) [MIM:168600]. A complex neurodegenerative disorder characterized by bradykinesia, resting tremor, muscular rigidity and postural instability. Additional features are characteristic postural abnormalities, dysautonomia, dystonic cramps, and dementia. The pathology of Parkinson disease involves the loss of dopaminergic neurons in the substantia nigra and the presence of Lewy bodies (intraneuronal accumulations of aggregated proteins), in surviving neurons in various areas of the brain. The disease is progressive and usually manifests after the age of 50 years, although early-onset cases (before 50 years) are known. The majority of the cases are sporadic suggesting a multifactorial etiology based on environmental and genetic factors. However, some patients present with a positive family history for the disease. Familial forms of the disease usually begin at earlier ages and are associated with atypical clinical features.

Sequence similarities Belongs to the glycosyl hydrolase 30 family.

Cellular localization Lysosome membrane. Interaction with saposin-C promotes membrane association.

Images



Western blot - Anti-GBA antibody [EPR5143(3)] (ab128879)

All lanes : Anti-GBA antibody [EPR5143(3)] (ab128879) at 1/1000 dilution

Lane 1 : Wild-type HeLa cell lysate
Lane 2 : GBA knockout HeLa cell lysate

Lysates/proteins at 20 µg per lane.

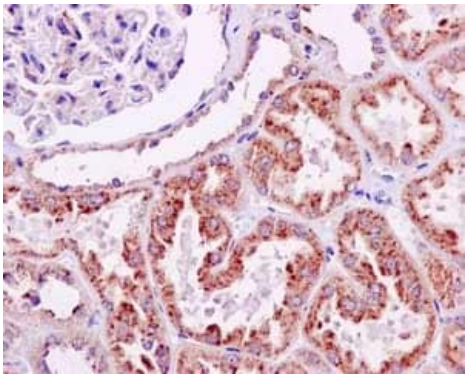
Performed under reducing conditions.

Predicted band size: 60 kDa
Observed band size: 60 kDa

Lanes 1- 2: Merged signal (red and green). Green - ab128879 observed at 60 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) observed at 37 kDa.

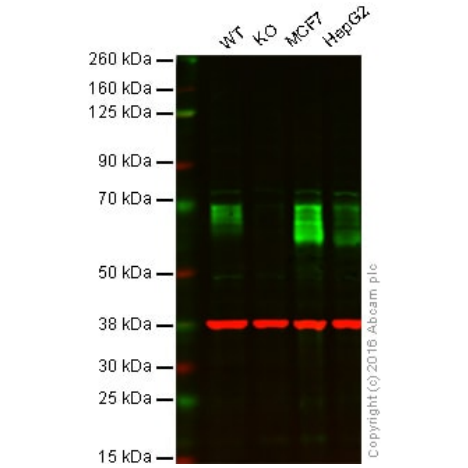
ab128879 was shown to react with GBA in wild-type HeLa cells in western blot. Loss of signal was observed when knockout cell line **ab265038** (knockout cell lysate **ab256929**) was used. Wild-type HeLa and GBA knockout HeLa cell lysates were subjected to SDS-

PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab128879 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GBA antibody [EPR5143(3)] (ab128879)

ab128879 staining GBA in Human kidney tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed and paraffin-embedded, antigen retrieval was by heat mediation in Tris/EDTA buffer pH9. Samples were incubated with primary antibody (1/200). An undiluted HRP-conjugated anti-rabbit IgG was used as the secondary antibody. Tissue counterstained with Hematoxylin.



Western blot - Anti-GBA antibody [EPR5143(3)] (ab128879)

All lanes : Anti-GBA antibody [EPR5143(3)] (ab128879) at 1/1000 dilution

Lane 1 : Wild-type HAP1 whole cell lysate
Lane 2 : GBA knockout HAP1 whole cell lysate
Lane 3 : MCF7 whole cell lysate
Lane 4 : HepG2 whole cell lysate

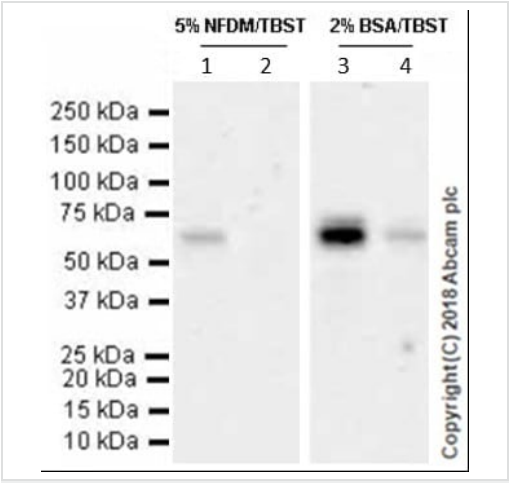
Lysates/proteins at 20 µg per lane.

Predicted band size: 60 kDa

Lanes 1 - 4: Merged signal (red and green). Green - ab128879 observed at 60 kDa. Red - loading control, **ab8245**, observed at 37 kDa.

ab128879 was shown to specifically react with GBA in wild-type HAP1 cells as well as additional cross reactive bands. No bands were observed when GBA knockout samples were used. Wild-type and GBA knockout samples were subjected to SDS-PAGE.

Ab128879 and **ab8245** (Mouse anti GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/10,000 dilution respectively. Blots were developed with 800CW Goat anti-Rabbit and 680CW Goat anti-Mouse secondary antibodies at 1/10,000 dilution for 1 hour at room temperature before imaging.



Western blot - Anti-GBA antibody [EPR5143(3)] (ab128879)

Lane 1 : Anti-GBA antibody [EPR5143(3)] (ab128879) at 1/10000 dilution
Lanes 2-4 : Anti-GBA antibody [EPR5143(3)] (ab128879) at 1/50000 dilution

All lanes : C6 (Rat glial tumor glial cell) whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/100000 dilution

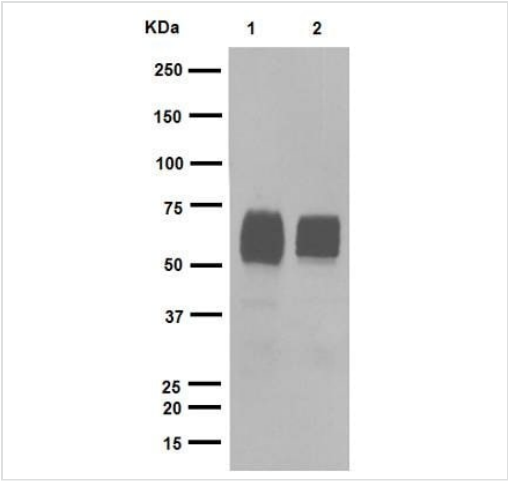
Predicted band size: 60 kDa
Observed band size: 60 kDa

Exposure time: 180 seconds

Blocking and diluting buffers:

Lane 1 and 2: 5% NFDM/TBST
Lane 3 and 4: 2% BSA/TBST

We suggest using 2% BSA/TBST as blocking buffer and antibody diluting buffer if you cannot obtain strong band in some samples.



Western blot - Anti-GBA antibody [EPR5143(3)] (ab128879)

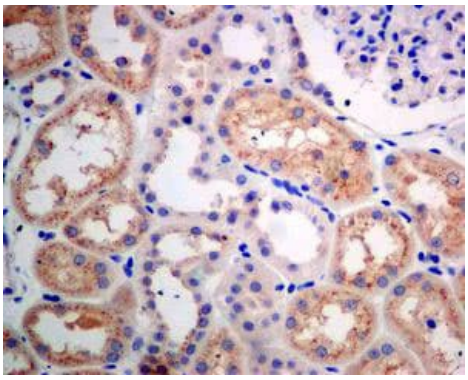
All lanes : Anti-GBA antibody [EPR5143(3)] (ab128879) at 1/4000 dilution

Lane 1 : Saos-2 Cell Lysate
Lane 2 : U87-MG Cell Lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), HRP- conjugated at 1/1000 dilution

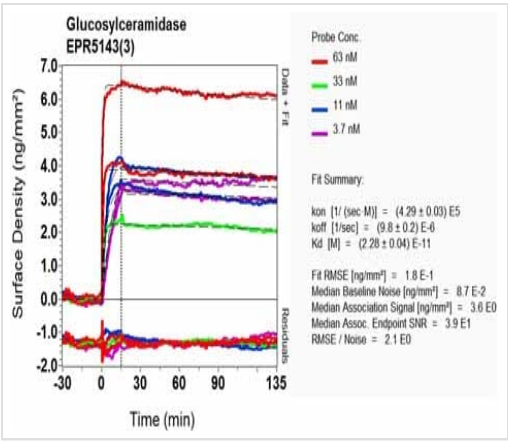
Predicted band size: 60 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GBA antibody [EPR5143(3)] (ab128879)

ab128879, unpurified, at a 1/100 dilution, staining GBA in paraffin embedded Human kidney tissue by Immunohistochemistry.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

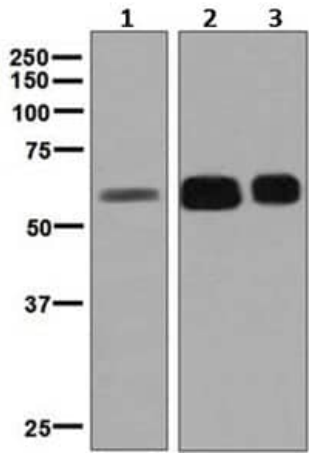


OI-RD Scanning - Anti-GBA antibody [EPR5143(3)] (ab128879)

Equilibrium disassociation constant (K_D)

Learn more about K_D

Click here to learn more about K_D



Western blot - Anti-GBA antibody [EPR5143(3)] (ab128879)

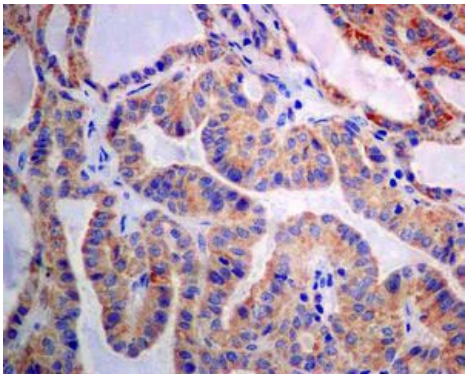
All lanes : Anti-GBA antibody [EPR5143(3)] (ab128879) at 1/1000 dilution (unpurified)

Lane 1 : 293T cell lysate
Lane 2 : Saos-2 cell lysate
Lane 3 : U87-MG cell lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 60 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GBA antibody [EPR5143(3)] (ab128879)

ab128879, unpurified, at a 1/100 dilution, staining GBA in paraffin embedded Human thyroid carcinoma tissue by Immunohistochemistry.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

Anti-GBA antibody [EPR5143(3)] (ab128879)

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