abcam

Product datasheet

Anti-POLG antibody [EPR7296] - BSA and Azide free ab232583

Recombinant RabMAb

2 Images

Overview

Product name	Anti-POLG antibody [EPR7296] - BSA and Azide free
Description	Rabbit monoclonal [EPR7296] to POLG - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** WB
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide within Human POLG aa 1150-1200. The exact sequence is proprietary.
Positive control	WB: HepG2 and HEK-293T cell lysate.
General notes	ab232583 is the carrier-free version of ab128899 This format is designed for use in antibody labeling, including fluorochromes, metal isotopes, oligonucleotides, enzymes. Our carrier-free formats are supplied in a buffer free of BSA, sodium azide and glycerol for higher conjugation efficiency. 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. Ab232583 is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm. *Maxpar® is a trademark of Fluidigm Canada Inc.* This product was previously labelled as DNA Polymerase gamma Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMab® patents. This product is a recombinant rabbit monoclonal antibody.

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	Constituent: PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR7296
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab232583** 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		Use at an assay dependent concentration. Predicted molecular weight: 140 kDa.

Target

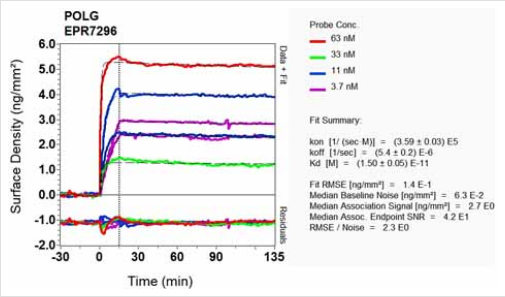
Function	Involved in the replication of mitochondrial DNA.
Involvement in disease	Defects in POLG are the cause of progressive external ophthalmoplegia with mitochondrial DNA deletions autosomal dominant type 1 (PEOA1) [MIM:157640]. Progressive external ophthalmoplegia is characterized by progressive weakness of ocular muscles and levator muscle of the upper eyelid. In a minority of cases, it is associated with skeletal myopathy, which predominantly involves axial or proximal muscles and which causes abnormal fatigability and even permanent muscle weakness. Ragged-red fibers and atrophy are found on muscle biopsy. A large proportion of chronic ophthalmoplegias are associated with other symptoms, leading to a multisystemic pattern of this disease. Additional symptoms are variable, and may include cataracts, hearing loss, sensory axonal neuropathy, ataxia, depression, hypogonadism, and parkinsonism. Defects in POLG are a cause of progressive external ophthalmoplegia with mitochondrial DNA deletions autosomal recessive (PEOB) [MIM:258450]. PEOB is a severe form of progressive external ophthalmoplegia. It is clinically more heterogeneous than the autosomal dominant forms. Can be more severe. Defects in POLG are a cause of sensory ataxic neuropathy dysarthria and ophthalmoparesis (SANDO) [MIM:607459]. SANDO is a clinically heterogeneous systemic disorder with variable features resulting from mitochondrial dysfunction. It shares phenotypic characteristics with autosomal recessive progressive external ophthalmoplegia and mitochondrial neurogastrointestinal encephalopathy syndrome. The clinical triad of symptoms consists of sensory ataxic, neuropathy, dysarthria, and ophthalmoparesis. Defects in POLG are a cause of Alpers-Huttenlocher syndrome (AHS) [MIM:203700]; also called Alpers diffuse degeneration of cerebral gray matter with hepatic cirrhosis. AHS is an autosomal recessive hepatocerebral syndrome. The typical course of AHS includes severe developmental delay, intractable seizures, liver failure, and death in childhood. Refractory seizures, cortical blindness, progressive liver dysfunction, and acute liver failure after exposure to valproic acid are considered diagnostic features. The neuropathological hallmarks of AHS are neuronal loss, spongiform degeneration, and astrocytosis of the visual cortex. Liver biopsy results show steatosis, often progressing to cirrhosis. Defects in POLG are a cause of mitochondrial neurogastrointestinal encephalopathy syndrome

(MNGIE) [MIM:603041]; also known as myoneurogastrointestinal encephalomyopathy. MNGIE is an autosomal recessive disease associated with multiple deletions of skeletal muscle mitochondrial DNA (MtDNA). It is clinically characterized by onset between the second and fifth decades of life, ptosis, progressive external ophthalmoplegia, gastrointestinal dysmotility (often pseudoobstruction), diffuse leukoencephalopathy, thin body habitus, peripheral neuropathy, and myopathy.
Defects in POLG are a cause of Leigh syndrome (LS) [MIM:256000]. LS is a severe neurological disorder characterized by bilaterally symmetrical necrotic lesions in subcortical brain regions.

Sequence similarities Belongs to the DNA polymerase type-A family.

Cellular localization Mitochondrion.

Images



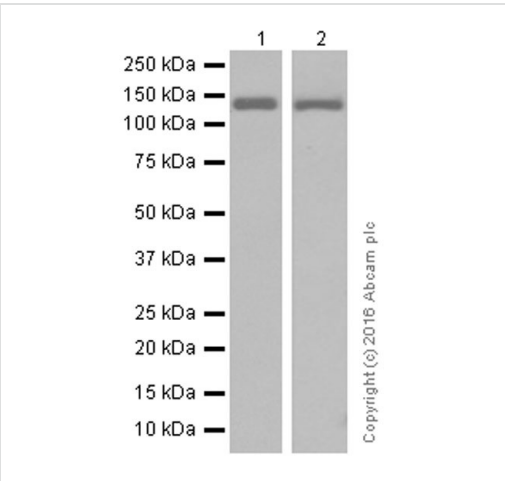
Other - Anti-POLG antibody [EPR7296] - BSA and Azide free (ab232583)

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 (ab128899).



Western blot - Anti-POLG antibody [EPR7296] - BSA and Azide free (ab232583)

All lanes : Anti-POLG antibody [EPR7296] (ab128899) at 1/5000 dilution (purified)

Lane 1 : HEK-293T (human embryonic kidney) whole cell lysate
Lane 2 : HepG2 (Human liver hepatocellular carcinoma cell line) whole cell lysate

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: 140 kDa

Blocking and diluting buffer: 5% NFDM/TBST.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and

sodium azide (ab128899).

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