abcam

ab238999

Anti-Gankyrin antibody [EPR14455] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR14455
Purification technique	Affinity purification Protein A

Reactivity data

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information 26S proteasome non-ATPase regulatory subunit 10

Function

Acts as a chaperone during the assembly of the 26S proteasome, specifically of the PA700/19S regulatory complex (RC). In the initial step of the base subcomplex assembly is part of an intermediate PSMD10:PSMC4:PSMC5:PAAF1 module which probably assembles with a PSMD5:PSMC2:PSMC1:PSMD2 module. Independently of the proteasome, regulates EGF-induced AKT activation through inhibition of the RHOA/ROCK/PTEN pathway, leading to prolonged AKT activation. Plays an important role in RAS-induced tumorigenesis. Acts as an proto-oncoprotein by being involved in negative regulation of tumor suppressors RB1 and p53/TP53. Overexpression is leading to phosphorylation of RB1 and proteasomal degradation of RB1. Regulates CDK4-mediated phosphorylation of RB1 by competing with CDKN2A for binding with CDK4. Facilitates binding of MDM2 to p53/TP53 and the mono- and polyubiquitination of p53/TP53 by MDM2 suggesting a function in targeting the TP53:MDM2 complex to the 26S proteasome. Involved in p53-independent apoptosis. Involved in regulation of NF-kappa-B by retaining it in the cytoplasm. Binds to the NF-kappa-B component RELA and accelerates its XPO1/CRM1-mediated nuclear export.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab238999 is the carrier-free version of ab182576.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

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 batch production

For more information, read more on recombinant antibodies.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. 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.

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.

Compatibility

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.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Gankyrin or PSMD10 is an oncogene with a molecular mass of around 25 kDa. It is a small heat-stable protein predominantly expressed in the cytoplasm of various tissues. The protein contains multiple ankyrin repeats that facilitate protein-protein interactions. It is overexpressed in many types of cancer tissues including liver breast and lung cancer. Gankyrin interacts with various cell cycle regulators and serves as an adaptor molecule enhancing its significance in cellular processes.
Biological function summary	Gankyrin enhances the degradation of the retinoblastoma protein (pRb) as part of the 26S proteasome complex. This function disrupts normal cell cycle control promoting cell proliferation. Gankyrin binds directly to the cyclin-dependent kinase 4 (CDK4) and MDM2 which regulate pRb and p53 tumor suppressor pathways. Overexpression of Gankyrin contributes to cellular transformation and oncogenesis by regulating cell cycle progression and apoptosis.
Pathways	Gankyrin participates actively in p53 and ubiquitin-proteasome pathways. The protein facilitates ubiquitination and degradation of key regulators including p53 and pRb altering the stability of these proteins. Gankyrin interacts with proteins like MDM2 and HDAC1 influencing their roles in tumor development through these

pathways. Its presence in these pathways contributes to unchecked cell growth by evading normal tumor suppressor mechanisms.

Associated diseases and disorders

Gankyrin has strong associations with cancer particularly in hepatocellular carcinoma and colorectal cancer. In these cancers it influences tumor progression and metastasis by altering the functions of proteins within the p53 pathway such as MDM2 and pRb. In hepatocellular carcinoma increased Gankyrin activity correlates with poor prognosis and aggressive tumor behavior while in colorectal cancer its interaction with these proteins may contribute to chemotherapy resistance.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

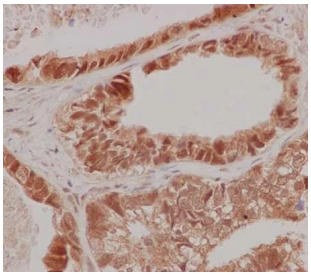
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

5 product images

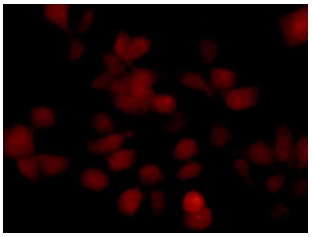


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Gankyrin antibody [EPR14455] - BSA and Azide free (ab238999)

Gankyrin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Gankyrin antibody

Immunohistochemical analysis of paraffin-embedded Human lung adenocarcinoma tissue labeling Gankyrin using ab182576 at 1/100 dilution. A Ready to use HRP Polymer for Rabbit IgG was used as secondary. Counterstain: Hematoxylin.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab182576).

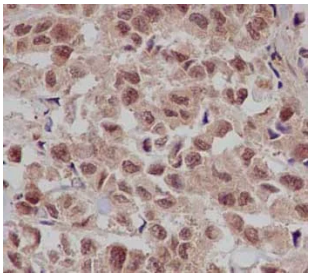
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-Gankyrin antibody [EPR14455] - BSA and Azide free (ab238999)

Gankyrin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Gankyrin antibody

Immunofluorescence analysis of 293 cells labeling Gankyrin using ab182576 at 1/100 dilution. A Goat anti rabbit IgG (Alexa Fluor555) at 1/200 dilution was used as secondary antibody. Cells were fixed with 4% paraformaldehyde.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab182576).



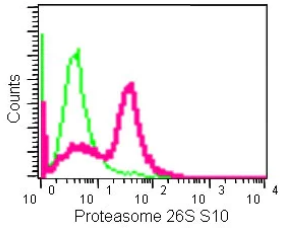
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Gankyrin antibody [EPR14455] - BSA and Azide free (ab238999)

Gankyrin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Gankyrin antibody

Immunohistochemical analysis of paraffin-embedded human infiltrating duct carcinoma of breast tissue labeling Gankyrin using ab182576 at 1/100 dilution. A ready to use HRP Polymer for Rabbit IgG was used as secondary.
Counterstain: Hematoxylin.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol and sodium azide (ab182576).

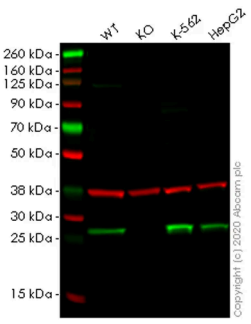
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-Gankyrin antibody [EPR14455] - BSA and Azide free (ab238999)

Gankyrin Flow Cytometry (Intracellular) staining using rabbit Anti-Gankyrin antibody

Intracellular Flow Cytometry analysis of K562 cells labeling Gankyrin using ab182576 at 1/80 dilution. A Goat anti rabbit IgG (FITC) at 1/150 dilution was used as secondary antibody. Cells were fixed with 2% paraformaldehyde. Isotype control: Rabbit monoclonal IgG.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab182576).



Western blot - Anti-Gankyrin antibody [EPR14455] - BSA and Azide free (ab238999)

Gankyrin Western blot staining using rabbit Anti-Gankyrin antibody

This data was developed using ab182576, the same antibody clone in a different buffer formulation.
Lanes 1-4: Merged signal (red and green). Green - ab182576 observed at 24 kDa. Red - loading control ab8245 observed at 36 kDa.

ab182576 Anti-Gankyrin antibody [EPR14455] was shown to specifically react with Gankyrin in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab265680 (knockout cell lysate ab258146) was used. Wild-type and Gankyrin knockout samples were subjected to SDS-PAGE. ab182576 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 1000 dilution and 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.

All lanes:
Western blot - Anti-Gankyrin antibody [EPR14455] (ab182576) at 1/1000 dilution

Lane 1:
Wild-type HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

Lane 2:
Western blot - Human PSMD10 (Gankyrin) knockout HeLa cell lysate (ab258146) at 20 µg

Lane 3:
K562 (Human chronic myelogenous leukemia lymphoblast cell line) whole cell lysate at 20 µg

Lane 4:
HepG2 (Human liver hepatocellular carcinoma cell line) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Predicted band size: 24 kDa

Observed band size: 24 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.