abcam

ab233072

Anti-Bok antibody [BOK-R1-5-1]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	BOK-R1-5-1
Purification technique	Affinity purification Protein A
Concentration	0.56 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat

Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information BOK

Function

Isoform 1. Apoptosis regulator that functions through different apoptotic signaling pathways (PubMed:15102863, PubMed:20673843, PubMed:27076518). Plays a roles as pro-apoptotic protein that positively regulates intrinsic apoptotic process in a BAX- and BAK1-dependent manner or in a BAX- and BAK1-independent manner (PubMed:15102863, PubMed:27076518). In response to endoplasmic reticulum stress promotes mitochondrial apoptosis through downstream BAX/BAK1 activation and positive regulation of PERK-mediated unfolded protein response (By similarity). Activates apoptosis independently of heterodimerization with survival-promoting BCL2 and BCL2L1 through induction of mitochondrial outer membrane permeabilization, in a BAX- and BAK1-independent manner, in response to inhibition of ERAD-proteasome degradation system, resulting in cytochrome c release (PubMed:27076518). In response to DNA damage, mediates intrinsic apoptotic process in a TP53-dependent manner (PubMed:15102863). Plays a role in granulosa cell apoptosis by CASP3 activation (PubMed:20673843). Plays a roles as anti-apoptotic protein during neuronal apoptotic process, by negatively regulating poly ADP-ribose polymerase-dependent cell death through regulation of neuronal calcium homeostasis and mitochondrial bioenergetics in response to NMDA

excitation (By similarity). In addition to its role in apoptosis, may regulate trophoblast cell proliferation during the early stages of placental development, by acting on G1/S transition through regulation of CCNE1 expression (PubMed:19942931). May also play a role as an inducer of autophagy by disrupting interaction between MCL1 and BECN1 (PubMed:24113155). Isoform 2. Pro-apoptotic molecule exerting its function through the mitochondrial pathway.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

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.

Supplementary info

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

Activity summary	BCL2-related ovarian killer (Bok) is a pro-apoptotic member of the Bcl-2 protein family contributing to apoptosis regulation. Bok sometimes referred to by its weight as approximately 23-25 kDa facilitates programmed cell death through mitochondrial pathways. Researchers have identified its expression primarily in

	reproductive tissues like ovaries and testis with some presence in the liver. Bok interacts with other Bcl-2 family proteins which act as apoptosis regulators creating a balance between cell survival and death.
Biological function summary	Bok plays an important role in the intrinsic apoptosis pathway by modulating mitochondrial outer membrane permeabilization. Bok forms protein complexes with other Bcl-2 family members like Bax and Bak contributing to cytochrome c release. This release is important for the activation of caspases leading to cellular apoptosis. Bok also exercises a regulatory role on calcium homeostasis within cells although its exact mechanisms remain under study.
Pathways	Bok integrates into the mitochondrial apoptosis pathway and the endoplasmic reticulum stress response influencing cellular fate decisions. Within these pathways Bok interacts with proteins such as Bax Bak and Bcl-2 balancing pro-apoptotic and anti-apoptotic signals. Bok's ability to influence these pathways demonstrates its importance in maintaining cellular homeostasis and response to stress signals.
Associated diseases and disorders	Bok has been associated with cancer and neurodegenerative diseases. Its role in promoting apoptosis links it to conditions where apoptosis is dysregulated such as tumorigenesis where reduced Bok activity could contribute to cancer progression. In neurodegenerative disorders like Alzheimer's Bok's interaction with proteins like Bax may exacerbate neuronal loss through increased apoptosis emphasizing the need for understanding Bok in developing therapeutic strategies.

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

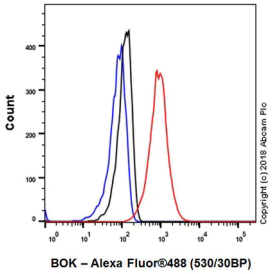
We do not recommend this combination. It is not covered by our product promise.

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:

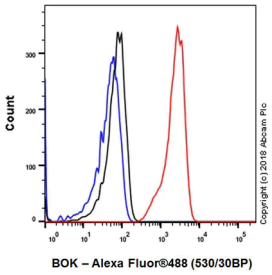
4 product images



Flow Cytometry (Intracellular) - Anti-Bok antibody [BOK-R1-5-1] (ab233072)

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

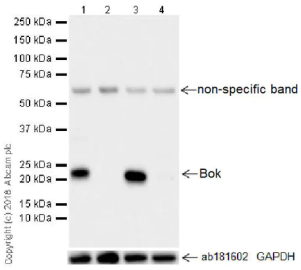
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized MCF7 (Human breast adenocarcinoma epithelial cell) cells labelling Bok with ab233072 at 1/50 (red) compared with a Rabbit monoclonal IgG (ab172730) (black) and an unlabelled control (cellsincubated with secondary antibody only) (blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077), at 1/2000 dilution was used as the secondary antibody.



Flow Cytometry (Intracellular) - Anti-Bok antibody [BOK-R1-5-1] (ab233072)

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

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized HepG2 (Human hepatocellular carcinoma epithelial cell) cell line labeling Bok with ab233072 at 1/50 (red) compared with a Rabbit monoclonal IgG (ab172730) (black) and an unlabelled control (cellsincubated with secondary antibody only) (blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077), at 1/2000 dilution was used as the secondary antibody.



Western blot - Anti-Bok antibody [BOK-R1-5-1] (ab233072)

Bok Western blot staining using rabbit Anti-Bok antibody

Blocking/diluting buffer and concentration: 5% NFDM/TBST.
The cell lysates were kindly provided by our collaborator Dr. Thomas Kaufmann, University of Bern, Switzerland.

All lanes:
Western blot - Anti-Bok antibody [BOK-R1-5-1] (ab233072) at 1/5000 dilution

Lane 1:
Wild-type MEF (Mouse embryonic fibroblast cell line) cell lysate at 20 µg

Lane 2:
Bok knockout MEF cell lysate at 20 µg

Lane 3:
Wild-type HepG2 (human liver hepatocellular carcinoma cell line) cell lysate at 20 µg

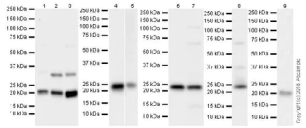
Lane 4:
Bok knockout HepG2 cell lysate at 20 µg

Secondary

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

Predicted band size: 23 kDa

Exposure time: 70s



Western blot - Anti-Bok antibody [BOK-R1-5-1] (ab233072)

Bok Western blot staining using rabbit Anti-Bok antibody

Blocking/Diluting buffer and concentration: 5% NFDM/TBST.
Exposure time: Lanes 1-3 and 8: 70 seconds; Lanes 4-5: 125 seconds; Lanes 6-7: 37 seconds; Lane 9: 3 minutes.

The specific band for BOK is observed at 22 kDa; the other bands on the blots are non-specific.

Lanes 1 - 3:
Western blot - Anti-Bok antibody [BOK-R1-5-1] (ab233072) at 1/5000 dilution

Lanes 4 - 9:
Western blot - Anti-Bok antibody [BOK-R1-5-1] (ab233072) at 1/1000 dilution

Lane 1:
MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
Human fetal liver at 20 µg

Lane 3:
Human fetal kidney at 20 µg

Lane 4:
Mouse brain at 10 µg

Lane 5:
Mouse liver at 10 µg

Lane 6:
Rat brain at 10 µg

Lane 7:
Rat spleen at 10 µg

Lane 8:
C6 (rat glial tumor cell) whole cell lysate at 10 µg

Lane 9:
Human fetal brain at 10 µg

Secondary

Lanes 1 - 8:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Lane 9:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/4000 dilution

Predicted band size: 23 kDa

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