abcam

ab183544

Anti-p53 (acetyl K370) antibody [EPR17496]

Lab Essentials | Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR17496
Purification technique	Affinity purification Protein A
Concentration	1.239 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Target data

See full target information TP53 acetyl K370

Function

Multifunctional transcription factor that induces cell cycle arrest, DNA repair or apoptosis upon binding to its target DNA sequence (PubMed:11025664, PubMed:12524540, PubMed:12810724, PubMed:15186775, PubMed:15340061, PubMed:17317671, PubMed:17349958, PubMed:19556538, PubMed:20673990, PubMed:20959462, PubMed:22726440, PubMed:24051492, PubMed:24652652, PubMed:35618207, PubMed:36634798, PubMed:38653238, PubMed:9840937). Acts as a tumor suppressor in many tumor types; induces growth arrest or apoptosis depending on the physiological circumstances and cell type (PubMed:11025664, PubMed:12524540, PubMed:12810724, PubMed:15186775, PubMed:15340061, PubMed:17189187, PubMed:17317671, PubMed:17349958, PubMed:19556538, PubMed:20673990, PubMed:20959462, PubMed:22726440, PubMed:24051492, PubMed:24652652, PubMed:38653238, PubMed:9840937). Negatively regulates cell division by controlling expression of a set of genes required for this process (PubMed:11025664, PubMed:12524540, PubMed:12810724, PubMed:15186775, PubMed:15340061, PubMed:17317671, PubMed:17349958, PubMed:19556538, PubMed:20673990, PubMed:20959462, PubMed:22726440, PubMed:24051492, PubMed:24652652, PubMed:9840937). One of the activated genes is an inhibitor of cyclin-dependent kinases. Apoptosis induction seems to be mediated either by stimulation of BAX and FAS antigen expression, or by repression of Bcl-2 expression (PubMed:12524540, PubMed:17189187). Its pro-apoptotic activity is activated via its interaction with PPP1R13B/ASPP1 or TP53BP2/ASPP2 (PubMed:12524540). However, this activity is inhibited when the interaction with PPP1R13B/ASPP1 or TP53BP2/ASPP2 is displaced by PPP1R13L/iASPP (PubMed:12524540). In cooperation with mitochondrial PPIF is involved in activating oxidative stress-induced necrosis; the function is largely independent of transcription. Induces the transcription of long intergenic non-coding RNA p21 (lincRNA-p21) and lincRNA-Mkln1. LincRNA-p21 participates in TP53-dependent transcriptional repression leading to apoptosis and seems to have an effect on cell-cycle regulation. Implicated in Notch signaling cross-over. Prevents CDK7 kinase activity when associated to CAK complex in response to DNA damage, thus

stopping cell cycle progression. Isoform 2 enhances the transactivation activity of isoform 1 from some but not all TP53-inducible promoters. Isoform 4 suppresses transactivation activity and impairs growth suppression mediated by isoform 1. Isoform 7 inhibits isoform 1-mediated apoptosis. Regulates the circadian clock by repressing CLOCK-BMAL1-mediated transcriptional activation of PER2 (PubMed:24051492).

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	The protein p53 also known as TP53 or tumor protein p53 has a molecular weight of approximately 53 kDa. It acts as a transcription factor and plays a major role in cell cycle regulation apoptosis and maintaining genomic stability. This protein mainly expresses in the nucleus of cells and acts as a critical regulator of cellular

	responses to stress signals including DNA damage. Scientists commonly use p53 antibodies in various assays like western blot and p53 immunofluorescence to detect and study its expression and functional status in cells.
Biological function summary	P53 functions to control cell division and apoptosis serving as a guardian of the genome by preventing mutation accumulation. It does not form part of a larger complex under normal conditions but interacts with various other molecules to execute its functions. p53 can activate or suppress the transcription of numerous genes involved in cell cycle arrest DNA repair and programmed cell death allowing it to halt the progression of damaged cells and trigger repair mechanisms or eliminate those that cannot be repaired.
Pathways	P53 acts within several key biological pathways such as the p53 signaling pathway and the intrinsic apoptotic pathway. Its activity involves interaction with proteins like MDM2 which regulates p53 through ubiquitin-mediated degradation and ATM kinase which phosphorylates p53 in response to DNA damage. These interactions ensure appropriate cellular responses during stress and are vital for maintaining homeostasis.
Associated diseases and disorders	P53 mutation or inactivation is often associated with the development of cancer given its role in controlling cell division and preventing tumor formation. Specifically its dysfunction has been linked to cancers such as breast cancer and lung cancer. Additionally p53 can interact with other mutant proteins like Ras compounding mutations that contribute to tumor progression and aggressive cancer phenotypes. Understanding these interactions and the status of p53 can be important in developing targeted cancer therapies.

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

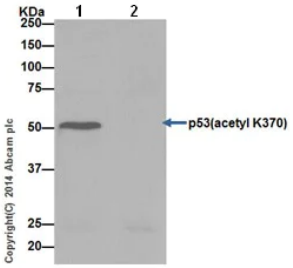
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images

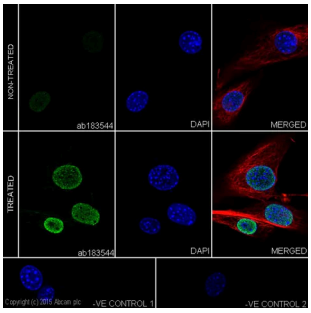


Immunoprecipitation - Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544)

p53 (acetyl K370) was immunoprecipitated from 1mg of HepG2 (Human liver hepatocellular carcinoma) whole cell extract treated with Etoposide 20uM and Trichostatin A 500 nM for 6 hours with ab183544 at 1/100 dilution. Western blot was performed from the immunoprecipitate using ab183544 at 1/1000 dilution. Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution. Lane 1: HepG2 whole cell extract treated with Etoposide 20uM and Trichostatin A 500 nM for 6 hours. Lane 2: PBS instead of HepG2
Blocking and dilution buffer and concentration: 5% NFDM/TBST.
All lanes:
Immunoprecipitation - Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544)

Predicted band size: 43 kDa

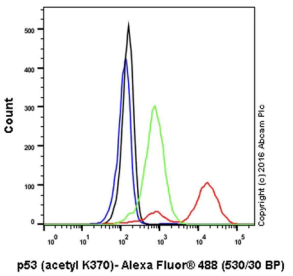
Observed band size: 53 kDa



Immunocytochemistry/ Immunofluorescence - Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544)

P53 (acetyl K370) Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-p53 (acetyl K370) antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 NIH/3T3 (Mouse embryo fibroblast cells) cells labeling p53 (acetyl K370) with ab183544 at 1/500 dilution, followed by Goat anti-rabbit Alexa Fluor® 488 IgG) (ab150077) secondary antibody at 1/400 dilution (green). Confocal image showing nuclear and weakly cytoplasm staining on NIH/3T3 cell line.
The expression increased after treatment with Trichostatin A (500 ng/ml) for 4 hours. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution and ab150120 (goat anti-mouse AlexaFluor®594 secondary antibody) at 1/500 dilution (red).
The negative controls are as follows;
1. ab183544 at 1/500 dilution followed by ab150120 (goat anti-mouse AlexaFluor®594 secondary antibody) at 1/500 dilution.
2. ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution followed by ab150077 (goat anti-rabbit Alexa Fluor®488 (IgG H&L) at 1/400 dilution.
[J Cell Biol. May 22, 2006; 173(4): 533–544.]

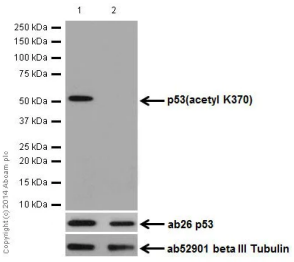


Flow Cytometry (Intracellular) - Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544)

P53 (acetyl K370) Flow Cytometry (Intracellular) staining using rabbit Anti-p53 (acetyl K370) antibody

Intracellular Flow Cytometry analysis of NIH/3T3 (mouse embryo) treated (Red)/untreated (Green) with 500ng/ml Trichostatin A for 4 hours with purified ab183544 at 1/150 dilution. The secondary

antibody was Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution. A Rabbit monoclonal IgG (Black) was used as the isotype control and cells without incubation with primary antibody and secondary antibody (Blue) were used as unlabeled control.



Western blot - Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544)

P53 (acetyl K370) Western blot staining using rabbit Anti-p53 (acetyl K370) antibody

Blocking/Dilution buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544) at 1/1000 dilution

Lane 1:
HepG2 (human hepatocellular carcinoma) treated with Etoposide 20uM and Trichostatin A 500 nM for 6 hours whole cell lysates at 10 µg

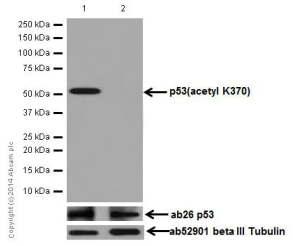
Lane 2:
HepG2 (human hepatocellular carcinoma) untreated whole cell lysates at 10 µg

Secondary

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

Predicted band size: 43 kDa

Observed band size: 53 kDa



Western blot - Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544)

Blocking/Dilution buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544) at 1/10000 dilution

Lane 1:
NIH/3T3 (mouse embryo) treated with Trichostatin A 500 nM for 4hr whole cell lysates at 10 µg

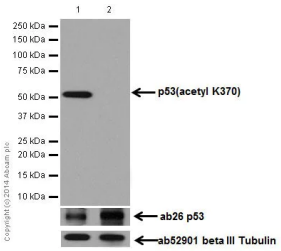
Lane 2:
NIH/3T3 (mouse embryo) untreated whole cell lysates at 10 µg

Secondary

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

Predicted band size: 43 kDa

Observed band size: 53 kDa



Western blot - Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544)

Blocking/Dilution buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544) at 1/1000 dilution

Lane 1:
C6 (rat glioma) treated with Trichostatin A 500 nM for 4hr whole cell lysates at 10 µg

Lane 2:
C6 (rat glioma) untreated whole cell lysates at 10 µg

Secondary

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

Predicted band size: 43 kDa, 48 kDa

Observed band size: 46 kDa, 53 kDa, 54 kDa

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