abcam

Product datasheet

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

重组 RabMAb

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概述

产品名称	Anti-p53 (acetyl K370)**抗体**[EPR17496]
描述	**兔单克隆抗体**[EPR17496] to p53 (acetyl K370)
宿主	Rabbit
经测试应用	**适用于:** WB, ICC/IF, IP, Flow Cyt (Intra)
种属反应性	**与反应:** Mouse, Rat, Human
免疫原	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
阳性对照	WB: HepG2 whole cell lysates treated with Etoposide 20uM and Trichostatin A 500 nM for 6 hours. NIH/3T3 whole cell lysates treated with Trichostatin A 500 nM for 4hr. C6 whole cell lysates treated with Trichostatin A 500 nM for 4hr. ICC/IF: NIH/3T3. IP: HepG2
常规说明	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**.

性能

形式	Liquid
存放说明	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.
存储溶液	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 49% PBS, 50% Glycerol (glycerin, glycerine), 0.05% BSA
纯度	Protein A purified
克隆	单克隆
克隆编号	EPR17496

同种型 IgG

应用

The Abpromise guarantee Abpromise™承诺保证使用ab183544于以下的经测试应用

"应用说明"部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
WB		1/1000. Detects a band of approximately 53 kDa (predicted molecular weight: 43 kDa).
ICC/IF		1/500.
IP		1/100.
Flow Cyt (Intra)		Use at an assay dependent concentration.

靶标

功能 Acts as a tumor suppressor in many tumor types; induces growth arrest or apoptosis depending on the physiological circumstances and cell type. Involved in cell cycle regulation as a trans-activator that acts to negatively regulate cell division by controlling a set of genes required for this process. 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. Implicated in Notch signaling cross-over. 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.

组织特异性 Ubiquitous. Isoforms are expressed in a wide range of normal tissues but in a tissue-dependent manner. Isoform 2 is expressed in most normal tissues but is not detected in brain, lung, prostate, muscle, fetal brain, spinal cord and fetal liver. Isoform 3 is expressed in most normal tissues but is not detected in lung, spleen, testis, fetal brain, spinal cord and fetal liver. Isoform 7 is expressed in most normal tissues but is not detected in prostate, uterus, skeletal muscle and breast. Isoform 8 is detected only in colon, bone marrow, testis, fetal brain and intestine. Isoform 9 is expressed in most normal tissues but is not detected in brain, heart, lung, fetal liver, salivary gland, breast or intestine.

疾病相关 Note=TP53 is found in increased amounts in a wide variety of transformed cells. TP53 is frequently mutated or inactivated in about 60% of cancers. TP53 defects are found in Barrett metaplasia a condition in which the normally stratified squamous epithelium of the lower esophagus is replaced by a metaplastic columnar epithelium. The condition develops as a complication in approximately 10% of patients with chronic gastroesophageal reflux disease and predisposes to the development of esophageal adenocarcinoma.
Defects in TP53 are a cause of esophageal cancer (ESCR) [MIM:133239].
Defects in TP53 are a cause of Li-Fraumeni syndrome (LFS) [MIM:151623]. LFS is an autosomal dominant familial cancer syndrome that in its classic form is defined by the existence of a proband affected by a sarcoma before 45 years with a first degree relative affected by any tumor before 45 years and another first degree relative with any tumor before 45 years or a sarcoma at any age. Other clinical definitions for LFS have been proposed (PubMed:8118819 and PubMed:8718514)

and called Li-Fraumeni like syndrome (LFL). In these families affected relatives develop a diverse set of malignancies at unusually early ages. Four types of cancers account for 80% of tumors occurring in TP53 germline mutation carriers: breast cancers, soft tissue and bone sarcomas, brain tumors (astrocytomas) and adrenocortical carcinomas. Less frequent tumors include choroid plexus carcinoma or papilloma before the age of 15, rhabdomyosarcoma before the age of 5, leukemia, Wilms tumor, malignant phyllodes tumor, colorectal and gastric cancers.
Defects in TP53 are involved in head and neck squamous cell carcinomas (HNSCC) [MIM:275355]; also known as squamous cell carcinoma of the head and neck.
Defects in TP53 are a cause of lung cancer (LNCR) [MIM:211980].
Defects in TP53 are a cause of choroid plexus papilloma (CPLPA) [MIM:260500]. Choroid plexus papilloma is a slow-growing benign tumor of the choroid plexus that often invades the leptomeninges. In children it is usually in a lateral ventricle but in adults it is more often in the fourth ventricle. Hydrocephalus is common, either from obstruction or from tumor secretion of cerebrospinal fluid. If it undergoes malignant transformation it is called a choroid plexus carcinoma. Primary choroid plexus tumors are rare and usually occur in early childhood.
Defects in TP53 are a cause of adrenocortical carcinoma (ADCC) [MIM:202300]. ADCC is a rare childhood tumor of the adrenal cortex. It occurs with increased frequency in patients with the Beckwith-Wiedemann syndrome and is a component tumor in Li-Fraumeni syndrome.

序列相似性 Belongs to the p53 family.

结构域 The nuclear export signal acts as a transcriptional repression domain. The TADI and TADII motifs (residues 17 to 25 and 48 to 56) correspond both to 9aaTAD motifs which are transactivation domains present in a large number of yeast and animal transcription factors.

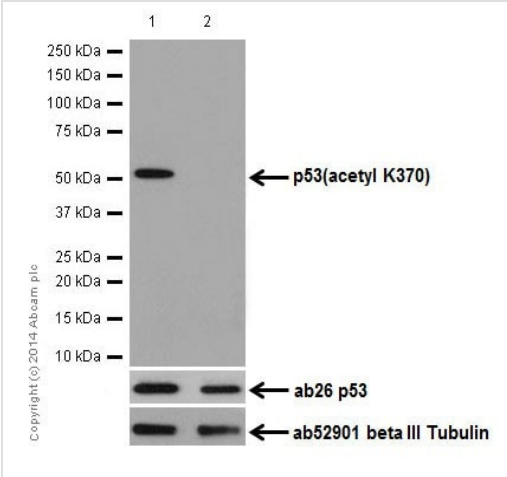
翻译后修饰 Acetylated. Acetylation of Lys-382 by CREBBP enhances transcriptional activity. Deacetylation of Lys-382 by SIRT1 impairs its ability to induce proapoptotic program and modulate cell senescence.
Phosphorylation on Ser residues mediates transcriptional activation. Phosphorylated by HIPK1 (By similarity). Phosphorylation at Ser-9 by HIPK4 increases repression activity on BIRC5 promoter. Phosphorylated on Thr-18 by VRK1. Phosphorylated on Ser-20 by CHEK2 in response to DNA damage, which prevents ubiquitination by MDM2. Phosphorylated on Thr-55 by TAF1, which promotes MDM2-mediated degradation. Phosphorylated on Ser-46 by HIPK2 upon UV irradiation. Phosphorylation on Ser-46 is required for acetylation by CREBBP. Phosphorylated on Ser-392 following UV but not gamma irradiation. Phosphorylated upon DNA damage, probably by ATM or ATR. Phosphorylated on Ser-15 upon ultraviolet irradiation; which is enhanced by interaction with BANP.
Dephosphorylated by PP2A-PPP2R5C holoenzyme at Thr-55. SV40 small T antigen inhibits the dephosphorylation by the AC form of PP2A.
May be O-glycosylated in the C-terminal basic region. Studied in EB-1 cell line.
Ubiquitinated by MDM2 and SYVN1, which leads to proteasomal degradation. Ubiquitinated by RFWD3, which works in cooperation with MDM2 and may catalyze the formation of short polyubiquitin chains on p53/TP53 that are not targeted to the proteasome. Ubiquitinated by MKRN1 at Lys-291 and Lys-292, which leads to proteasomal degradation. Deubiquitinated by USP10, leading to its stabilization. Ubiquitinated by TRIM24, which leads to proteasomal degradation. Ubiquitination by TOPORS induces degradation. Deubiquitination by USP7, leading to stabilization. Isoform 4 is monoubiquitinated in an MDM2-independent manner.
Monomethylated at Lys-372 by SETD7, leading to stabilization and increased transcriptional activation. Monomethylated at Lys-370 by SMYD2, leading to decreased DNA-binding activity and subsequent transcriptional regulation activity. Lys-372 monomethylation prevents interaction with SMYD2 and subsequent monomethylation at Lys-370. Dimethylated at Lys-373 by EHMT1 and EHMT2. Monomethylated at Lys-382 by SETD8, promoting interaction with L3MBTL1 and leading to repress transcriptional activity. Demethylation of dimethylated Lys-370 by KDM1A prevents interaction with TP53BP1 and represses TP53-mediated transcriptional activation.

Sumoylated by SUMO1.

细胞定位

Cytoplasm; Cytoplasm. Nucleus. Nucleus > PML body. Endoplasmic reticulum. Interaction with BANP promotes nuclear localization. Recruited into PML bodies together with CHEK2; Nucleus. Cytoplasm. Localized in both nucleus and cytoplasm in most cells. In some cells, forms foci in the nucleus that are different from nucleoli; Nucleus. Cytoplasm. Localized in the nucleus in most cells but found in the cytoplasm in some cells; Nucleus. Cytoplasm. Localized mainly in the nucleus with minor staining in the cytoplasm; Nucleus. Cytoplasm. Predominantly nuclear but localizes to the cytoplasm when expressed with isoform 4 and Nucleus. Cytoplasm. Predominantly nuclear but translocates to the cytoplasm following cell stress.

图片



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

All lanes : Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544) at 1/1000 dilution

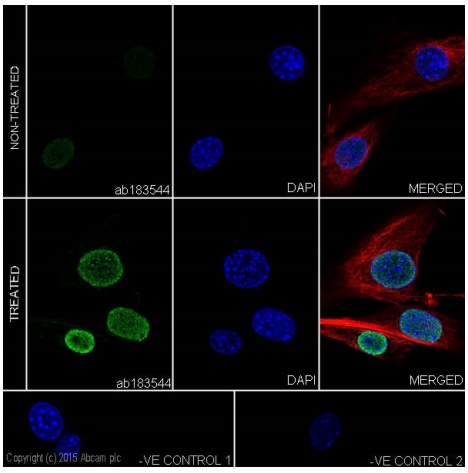
Lane 1 : HepG2 (human hepatocellular carcinoma) treated with Etoposide 20uM and Trichostatin A 500 nM for 6 hours whole cell lysates
Lane 2 : HepG2 (human hepatocellular carcinoma) untreated whole cell lysates

Lysates/proteins at 10 µg per lane.

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

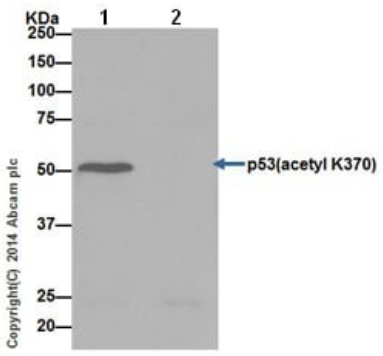
Blocking/Dilution buffer: 5% NFDM/TBST



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

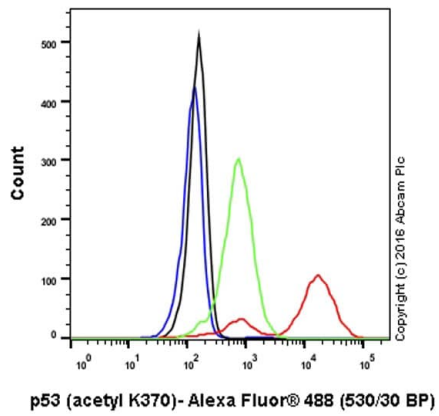
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 NIH/3T3 (Mouse embyro fibroblast cells) cells labeling p53 (acetyl K370) with ab183544 at 1/500 dilution, followed by Goat anti-rabbit Alexa Fluor® 488 IgG) (**ab150077**) secondary antibody at 1/400 dilution (green). Confocal 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.]



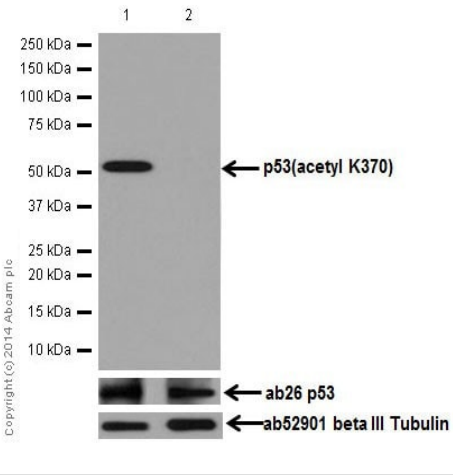
Immunoprecipitation - Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544)

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.



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

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)

All lanes : Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544) at 1/10000 dilution

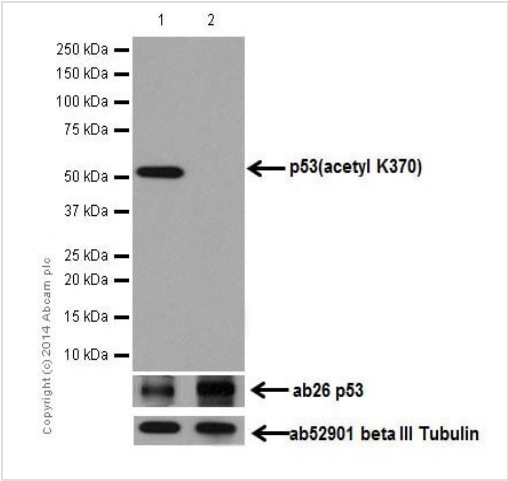
Lane 1 : NIH/3T3 (mouse embryo) treated with Trichostatin A 500 nM for 4hr whole cell lysates
Lane 2 : NIH/3T3 (mouse embryo) untreated whole cell lysates

Lysates/proteins at 10 µg per lane.

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

Blocking/Dilution buffer: 5% NFDM/TBST



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

All lanes : Anti-p53 (acetyl K370) antibody [EPR17496] (ab183544) at 1/1000 dilution

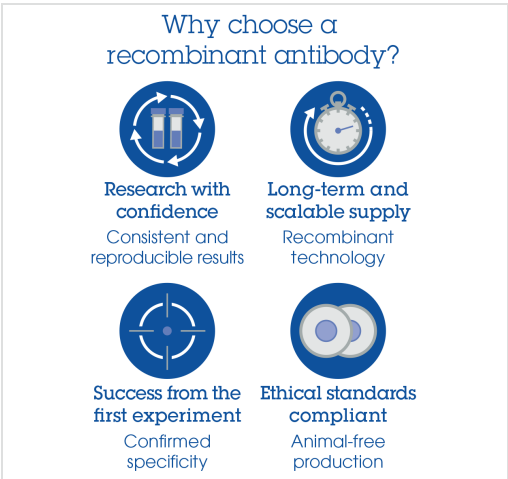
Lane 1 : C6 (rat glioma) treated with Trichostatin A 500 nM for 4hr whole cell lysates
Lane 2 : C6 (rat glioma) untreated whole cell lysates

Lysates/proteins at 10 µg per lane.

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

Blocking/Dilution buffer: 5% NFDM/TBST



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

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