abcam

ab76026

Anti-Nrf2 (phospho S40) antibody [EP1809Y]

Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026) is a rabbit monoclonal antibody detecting Nrf2 in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF, Dot Blot**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 200 publications
- Trusted since 2009

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, 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	EP1809Y
Purification technique	Affinity purification Protein A
Concentration	0.401 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Synthetic peptide
Dilution info	-
Notes	-

Dot

Tested

Species	Synthetic peptide
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Human
Dilution info	1/5000 - 1/50000
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/80 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Synthetic peptide

Dilution info	-
Notes	-

Target data

See full target information NFE2L2 pS40

Function

Transcription factor that plays a key role in the response to oxidative stress: binds to antioxidant response (ARE) elements present in the promoter region of many cytoprotective genes, such as phase 2 detoxifying enzymes, and promotes their expression, thereby neutralizing reactive electrophiles (PubMed:11035812, PubMed:19489739, PubMed:29018201, PubMed:31398338). In normal conditions, ubiquitinated and degraded in the cytoplasm by the BCR(KEAP1) complex (PubMed:11035812, PubMed:15601839, PubMed:29018201). In response to oxidative stress, electrophile metabolites inhibit activity of the BCR(KEAP1) complex, promoting nuclear accumulation of NFE2L2/NRF2, heterodimerization with one of the small Maf proteins and binding to ARE elements of cytoprotective target genes (PubMed:19489739, PubMed:29590092). The NFE2L2/NRF2 pathway is also activated in response to selective autophagy: autophagy promotes interaction between KEAP1 and SQSTM1/p62 and subsequent inactivation of the BCR(KEAP1) complex, leading to NFE2L2/NRF2 nuclear accumulation and expression of cytoprotective genes (PubMed:20452972). The NFE2L2/NRF2 pathway is also activated during the unfolded protein response (UPR), contributing to redox homeostasis and cell survival following endoplasmic reticulum stress (By similarity). May also be involved in the transcriptional activation of genes of the beta-globin cluster by mediating enhancer activity of hypersensitive site 2 of the beta-globin locus control region (PubMed:7937919). Also plays an important role in the regulation of the innate immune response and antiviral cytosolic DNA sensing. It is a critical regulator of the innate immune response and survival during sepsis by maintaining redox homeostasis and restraint of the dysregulation of pro-inflammatory signaling pathways like MyD88-dependent and -independent and TNF signaling (By similarity). Suppresses macrophage inflammatory response by blocking pro-inflammatory cytokine transcription and the induction of IL6 (By similarity). Binds to the proximity of pro-inflammatory genes in macrophages and inhibits RNA Pol II recruitment. The inhibition is independent of the NRF2-binding motif and reactive oxygen species level (By similarity). Represses antiviral cytosolic DNA sensing by suppressing the expression of the adapter protein STING1 and decreasing responsiveness to STING1 agonists while increasing susceptibility to infection with DNA viruses (PubMed:30158636). Once activated, limits the release of pro-inflammatory cytokines in response to human coronavirus SARS-CoV-2 infection and to virus-derived ligands through a mechanism that involves inhibition of IRF3 dimerization. Also inhibits both SARS-CoV-2 replication, as well as the replication of several other pathogenic viruses including Herpes Simplex Virus-1 and-2, Vaccinia virus, and Zika virus through a type I interferon (IFN)-independent mechanism (PubMed:33009401).

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

Product Specifications
Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in Dot blot, Flow Cyt (Intra), ICC/IF, IHC-P, WB in human samples.
Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026) specifically detects Nrf2 Phospho-S40 (UniProt ID: Q16236; Molecular weight: 68kDa) and is sold in a convenient trial size to enable initial testing (20 µL) and larger sizes for subsequent scaling up experiments (100 µL and 1 mL).

Quality and Validation
Abcam's high quality manufacturing and validation processes ensure Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.
Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026) has been cited over 208 times in peer reviewed journals and is trusted by the scientific community.
Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026) has 16 independent reviews from customers.

Related Products
Antibody clone EP1809Y is also available pre-conjugated to a variety of labels for your convenience - Alexa Fluor® 488, Alexa Fluor® 647, Alexa Fluor® 555, Alexa Fluor® 594, PE, APC, Alexa Fluor® 750 (ab237464, ab237465, ab320134, ab320135, ab320136, ab320137, ab321712).
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.

Species reactivity
Rat: We have preliminary internal testing data to indicate this antibody may not react with this species.
Please contact us for more information.

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

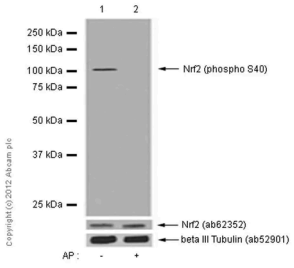
We do not recommend this combination. It is not covered by our product promise.

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.

16 product images



Western blot - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Nrf2 (phospho S40) Western blot staining using rabbit Anti-Nrf2 (phospho S40) antibody

Blocking buffer: 5% NFDM/TBST, dilution buffer: 5% NFDM /TBST, exposure time: 15 seconds
All lanes:
Western blot - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026) at 1/10000 dilution

Lane 1:
Untreated HepG2 (human hepatocellular carcinoma) whole cell lysates 20µg

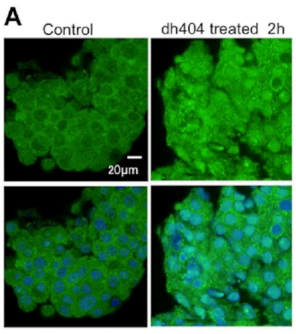
Lane 2:
HepG2 (human hepatocellular carcinoma) treated with Alkaline Phosphatase (AP) whole cell lysates 20µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/1000 dilution

Predicted band size: 68 kDa

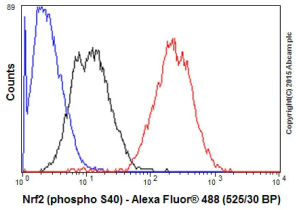
Observed band size: 100 kDa



Masuda et al PLoS One. 2015 Jun 25;10(6):e0131012. doi: 10.1371/journal.pone.0131012. eCollection 2015. Fig 1. Reproduced under the Creative Commons license http://creativecommons.org/licenses/by/4.0/

Immunocytochemistry/ Immunofluorescence - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

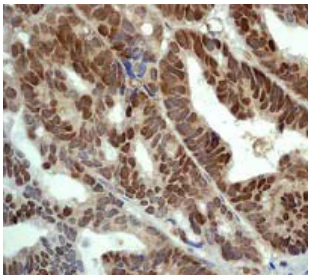
Nrf2 Translocation from cytoplasm to nucleus.
(A) Human islets were treated with dh404 for 0.5, 1 or 2 hours. The treated and untreated samples were stained with Nrf2 antibody ab76026 (Green) and DAPI (Blue). The con-focal microscope clearly showed that the Nrf2 translocation from cytoplasm to nucleus in the dh404 treated human islet cells



Flow Cytometry (Intracellular) - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Nrf2 (phospho S40) Flow Cytometry (Intracellular) staining using rabbit Anti-Nrf2 (phospho S40) antibody

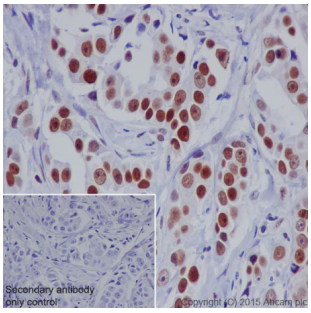
Overlay histogram showing Jurkat cells fixed in 4% PFA and stained with purified ab76026 at a dilution of 1 in 80 (red line). The secondary antibody used was FITC goat anti-rabbit at a dilution of 1 in 500. Rabbit monoclonal IgG was used as an isotype control (black line) and cells incubated in the absence of both primary and secondary antibody were used as a negative control (blue line).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Nrf2 (phospho S40) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Nrf2 (phospho S40) antibody

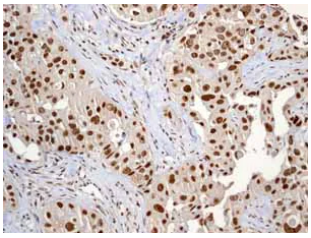
Immunohistochemical analysis of paraffin-embedded human breast carcinoma using unpurified ab76026 at 1/100 dilution.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Nrf2 (phospho S40) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Nrf2 (phospho S40) antibody

Immunohistochemical staining of paraffin embedded human breast carcinoma with purified ab76026 at a working dilution of 1/500. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.

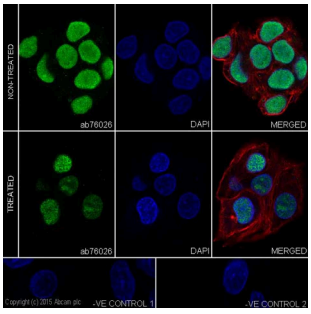


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Nrf2 (phospho S40) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Nrf2 (phospho S40) antibody

Unpurified ab76026 showing positive staining in Breast carcinoma tissue.

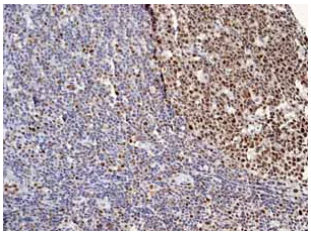
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Nrf2 (phospho S40) Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Nrf2 (phospho S40) antibody

Immunofluorescence staining of HepG2 cells with purified ab76026 at a working dilution of 1/100, counter-stained with DAPI. The treated cells were treated with alkaline phosphatase for 1 h at 37°C. The secondary antibody was Alexa Fluor® 488 goat anti-rabbit (ab150077), used at a dilution of 1/1000. ab7291, a mouse anti-tubulin antibody (1/1000), was used to stain tubulin along with ab150120 (Alexa Fluor® 594 goat anti-mouse, 1/1000), shown in the top right hand panel. The cells were fixed in 4% PFA and permeabilized using 0.1% Triton X 100. The negative controls are shown in bottom middle and right hand panels - for negative control 1, purified ab76026 was used at a dilution of 1/500 followed by an Alexa Fluor® 594 goat anti-mouse antibody (ab150120) at a dilution of 1/500. For negative control 2, ab7291 (mouse anti-tubulin) was used at a dilution of 1/500 followed by an Alexa Fluor® 488 goat anti-rabbit antibody (ab150077) at a dilution of 1/400.

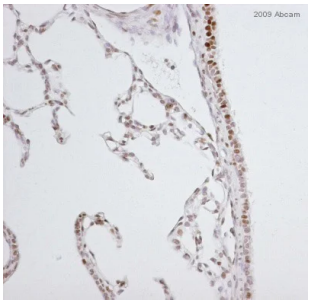


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Nrf2 (phospho S40) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Nrf2 (phospho S40) antibody

Unpurified ab76026 showing positive staining in Normal tonsil tissue.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

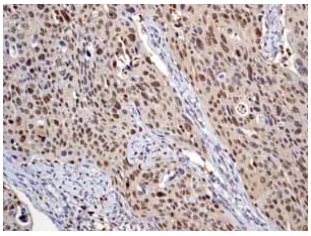


This image is courtesy of an anonymous customer review

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Nrf2 (phospho S40) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Nrf2 (phospho S40) antibody

Unpurified ab76026 staining Nrf2 (phospho S40) in Human normal lung tissue sections by IHC-P (Formaldehyde-fixed paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 1% casein for 30 minutes at 4°C. Antigen retrieval was by heat mediation. Samples were incubated with primary antibody (1/50) in 1% casein for 24 hours at 4°C. An undiluted HRP-conjugated Goat polyclonal to rabbit IgG was used as the secondary antibody.

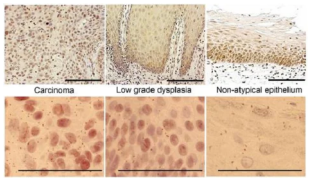


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Nrf2 (phospho S40) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Nrf2 (phospho S40) antibody

Unpurified ab76026 showing positive staining in Cervical carcinoma tissue.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



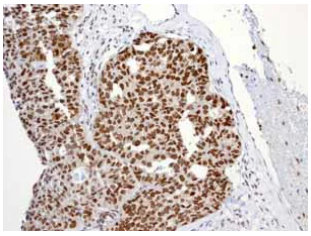
Inui et al PLoS One. 2013 Sep 24;8(9):e74398. doi: 10.1371/journal.pone.0074398. eCollection 2013. Fig 2. Reproduced under the Creative Commons license http://creativecommons.org/licenses/by/4.0/

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Nrf2 was abundantly expressed in carcinomas, low grade dysplasias, and non-atypical epithelia of oral tissue.
Representative findings of Nrf2 staining in carcinoma (left), in low grade dysplasia (middle), and in non-atypical epithelium (right).

Corresponding PLA signals are displayed in the lower row. Scale bar; 100 μm.

Surgical specimens were transferred to 10% buffered formalin and fixed overnight. The fixed samples were embedded in paraffin, and serially sliced into 5 μm sections. After dewaxing, sections were autoclaved at 120°C for 1 min in 10 mM sodium citrate buffer (pH 6.0), and immersed in 0.3% H_2O_2. They were then incubated overnight at 4°C with primary antibody to Nrf2 (diluted 1:200). The sections were rinsed with 1×PBS and incubated with the secondary antibody conjugated with horseradish peroxidase at room temperature for 1 hour. The sections were then stained with 3.3′-diaminobenzidinetetrahydrochloride (DAB) and counterstained with hematoxylin.

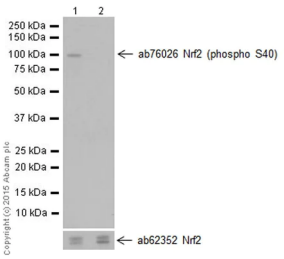


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Nrf2 (phospho S40) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Nrf2 (phospho S40) antibody

Unpurified ab76026 showing positive staining in Ovarian carcinoma tissue.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Western blot - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Blocking buffer: 5% NFDM/TBST
Dilution buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026) at 1/50000 dilution

Lane 1:
untreated HepG2 cell lysate at 10 µg

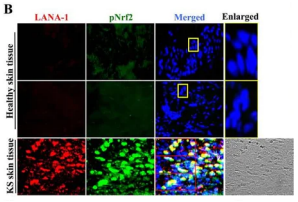
Lane 2:
HepG2 treated with phosphatase lysate at 10 µg

Secondary

All lanes:
HRP goat anti-rabbit IgG (H+L) at 1/20000 dilution

Predicted band size: 68 kDa

Observed band size: 90 kDa

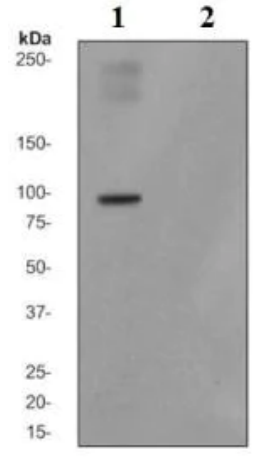


Giyshi et al PLoS Pathog. 2014 Oct 23;10(10):e1004460. doi: 10.1371/journal.ppat.1004460. eCollection 2014 Oct. Fig 1. Reproduced under the Creative Commons license http://creativecommons.org/licenses/by/4.0/

Immunocytochemistry/ Immunofluorescence - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Immunofluorescence analysis of Nrf2 levels in Kaposi's sarcoma skin lesions.
B) Healthy skin (top two rows) and KS skin tissue (bottom row) were double-stained for LANA-1 (Alexa-Fluor 594- red) and host phosphorylated pNrf2 (ab76026) (Alexa-Fluor® 488 – green). DAPI was used to visualize the nuclei, and the triple merge of LANA-1, pNrf2 and DAPI is shown in the third column.

Yellow square=enlarged area.



Western blot - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

All lanes:
Western blot - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026) at 1/20000 dilution

Lane 1:
HepG2 cell lysate at 10 µg

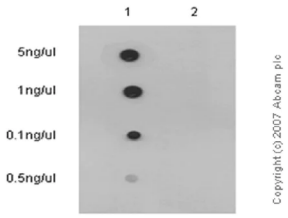
Lane 2:
HepG2 cell lysate treated with AP at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/1000 dilution

Predicted band size: 68 kDa

Observed band size: 90 kDa



Dot Blot - Anti-Nrf2 (phospho S40) antibody [EP1809Y] (ab76026)

Dot blot analysis of Nrf2 peptides using unpurified ab76026 at 1/1000 dilution followed by Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated secondary antibody at 1/1000 dilution. Blocking and diluting buffer was 5% NFDM/TBST.

Lane 1: Nrf2 (pS40) phospho peptide

Lane 2: Nrf2 non-phospho peptide

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