abcam

ab218373

Anti-PARK7/DJ1 antibody [EP2815Y] - 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	EP2815Y
Purification technique	Affinity purification Protein A
Concentration	1.017 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-

Notes	Perform heat mediated antigen retrieval using 0.01M Sodium Citrate Buffer, pH 6.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376- Rabbit monoclonal IgG (Low endotoxin, Azide free), is suitable for use as an isotype control with this antibody.

Expected

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

Target data

See full target information PARK7

Function	Multifunctional protein with controversial molecular function which plays an important role in cell protection against oxidative stress and cell death acting as oxidative stress sensor and redox-sensitive chaperone and protease (PubMed:12796482, PubMed:17015834, PubMed:18711745, PubMed:19229105, PubMed:20304780, PubMed:25416785, PubMed:26995087, PubMed:28993701). It is involved in neuroprotective mechanisms like the stabilization of NFE2L2 and PINK1 proteins, male fertility as a positive regulator of androgen signaling pathway as well as cell growth and transformation through, for instance, the modulation of NF-kappa-B signaling pathway (PubMed:12612053, PubMed:14749723, PubMed:15502874, PubMed:17015834, PubMed:18711745, PubMed:21097510). Has been described as a protein and nucleotide deglycase that catalyzes the deglycation of the Maillard adducts formed between amino groups of proteins or nucleotides and reactive carbonyl groups of glyoxals (PubMed:25416785, PubMed:28596309). But this function is rebuted by other works (PubMed:27903648, PubMed:31653696). As a protein deglycase, repairs

methylglyoxal- and glyoxal-glycated proteins, and releases repaired proteins and lactate or glycolate, respectively. Deglycates cysteine, arginine and lysine residues in proteins, and thus reactivates these proteins by reversing glycation by glyoxals. Acts on early glycation intermediates (hemithioacetals and aminocarbinols), preventing the formation of advanced glycation endproducts (AGE) that cause irreversible damage (PubMed:25416785, PubMed:26995087, PubMed:28013050). Also functions as a nucleotide deglycase able to repair glycated guanine in the free nucleotide pool (GTP, GDP, GMP, dGTP) and in DNA and RNA. Is thus involved in a major nucleotide repair system named guanine glycation repair (GG repair), dedicated to reversing methylglyoxal and glyoxal damage via nucleotide sanitization and direct nucleic acid repair (PubMed:28596309). Protects histones from adduction by methylglyoxal, controls the levels of methylglyoxal-derived argininine modifications on chromatin (PubMed:30150385). Able to remove the glycations and restore histone 3, histone glycation disrupts both local and global chromatin architecture by altering histone-DNA interactions as well as histone acetylation and ubiquitination levels (PubMed:30150385, PubMed:30894531). Displays a very low glyoxalase activity that may reflect its deglycase activity (PubMed:22523093, PubMed:28993701, PubMed:31653696). Eliminates hydrogen peroxide and protects cells against hydrogen peroxide-induced cell death (PubMed:16390825). Required for correct mitochondrial morphology and function as well as for autophagy of dysfunctional mitochondria (PubMed:16632486, PubMed:19229105). Plays a role in regulating expression or stability of the mitochondrial uncoupling proteins SLC25A14 and SLC25A27 in dopaminergic neurons of the substantia nigra pars compacta and attenuates the oxidative stress induced by calcium entry into the neurons via L-type channels during pacemaking (PubMed:18711745). Regulates astrocyte inflammatory responses, may modulate lipid rafts-dependent endocytosis in astrocytes and neuronal cells (PubMed:23847046). In pancreatic islets, involved in the maintenance of mitochondrial reactive oxygen species (ROS) levels and glucose homeostasis in an age- and diet dependent manner. Protects pancreatic beta cells from cell death induced by inflammatory and cytotoxic setting (By similarity). Binds to a number of mRNAs containing multiple copies of GG or CC motifs and partially inhibits their translation but dissociates following oxidative stress (PubMed:18626009). Metal-binding protein able to bind copper as well as toxic mercury ions, enhances the cell protection mechanism against induced metal toxicity (PubMed:23792957). In macrophages, interacts with the NADPH oxidase subunit NCF1 to direct NADPH oxidase-dependent ROS production, and protects against sepsis (By similarity).

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

ab218373 is the carrier-free version of ab76008.

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.

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.

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

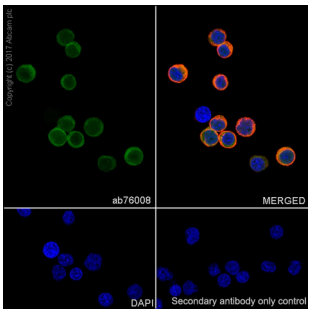
We do not recommend this combination. It is not covered by our product promise.

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.

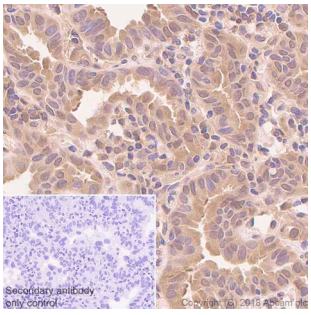
11 product images



Immunocytochemistry/ Immunofluorescence - Anti-PARK7/DJ1 antibody [EP2815Y] - BSA and Azide free (ab218373)

PARK7/DJ1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PARK7/DJ1 antibody

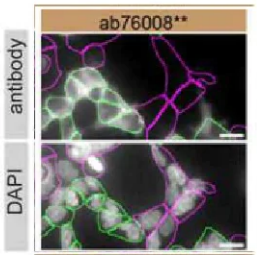
This IHC data was generated using the same anti-PARK7 antibody clone, EP2815Y, in a different buffer formulation (cat# ab76008).
Immunocytochemistry/ Immunofluorescence analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling PARK7/DJ1 with Purified ab76008 at 1:500 dilution (0.2 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PARK7/DJ1 antibody [EP2815Y] - BSA and Azide free (ab218373)

PARK7/DJ1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PARK7/DJ1 antibody

This IHC data was generated using the same anti-PARK7 antibody clone, EP2815Y, in a different buffer formulation (cat# ab76008).
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human lung cancer tissue sections labeling PARK7/DJ1 with Purified ab76008 at 1:1000 dilution (0.11 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use)was used as the secondary antibody. Negative control:PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunocytochemistry/ Immunofluorescence - Anti-PARK7/DJ1 antibody [EP2815Y] - BSA and Azide free (ab218373)

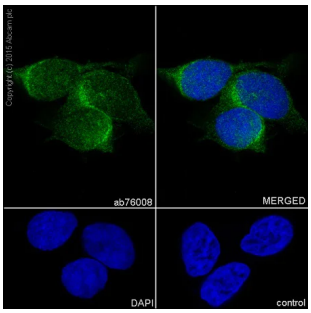
PARK7/DJ1 Immunocytochemistry/ Immunofluorescence staining of wild-type HEK-293T cells using rabbit Anti-PARK7/DJ1 antibody

This data was developed using ab76008, the same antibody clone in a different buffer formulation.

ab76008 was shown to react with PARK7 in wild-type HEK-293T cells in immunocytochemistry with loss of signal observed in a PARK7 knockout cell line. Wild-type and knockout cells were mixed and pelleted at a 1:1 ratio on coverslips. The cells were fixed with 4% paraformaldehyde (15 min) then permeabilized with 0.1% Triton X-100 (10min) and then blocked with 1x PBS, 0.01% Triton X-100, 5% BSA, 5% NGS. The cells were then incubated with ab76008 at 1/100 dilution overnight at 4°C followed by a further incubation at room temperature for 1h with a goat anti-rabbit secondary antibody to (Alexa Fluor® 555) at 0.5 µg/ml. Acquisition of the green (wild-type), red (antibody staining) and far-red (knockout) channels was performed. Representative grayscale images of the red channel are shown. Wild-type and knockout cells are outlined with yellow and magenta dashed line, respectively. Schematic representation of the mosaic strategy used is shown on the bottom-right panel. Image was acquired with a Zeiss(LSM-880).

This data was provided by YCharOS Inc., an open science company with the mission of characterizing commercially available antibody reagents for all human proteins. Abcam and

YCharOS are working together to help address the reproducibility crisis by enabling the life science community to better evaluate commercially available antibodies.



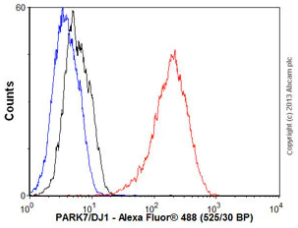
Immunocytochemistry/ Immunofluorescence - Anti-PARK7/DJ1 antibody [EP2815Y] - BSA and Azide free (ab218373)

PARK7/DJ1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PARK7/DJ1 antibody

Immunocytochemistry/Immunofluorescence analysis of MCF-7 (human breast carcinoma) labelling PARK7/DJ1 with purified ab76008 at 1/500. Cells were fixed with 4% PFA and permeabilized with 0.1% Triton X-100. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody (ab150077). Nuclei counterstained with DAPI (blue). Control: PBS only

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76008).

This image was generated using the unpurified version of the product.

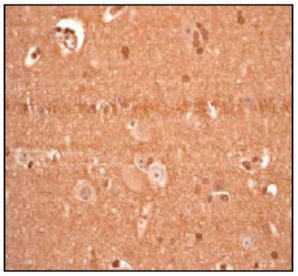


Flow Cytometry (Intracellular) - Anti-PARK7/DJ1 antibody [EP2815Y] - BSA and Azide free (ab218373)

PARK7/DJ1 Flow Cytometry (Intracellular) staining using rabbit Anti-PARK7/DJ1 antibody

Overlay histogram showing HepG2 cells stained with ab76008 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab76008, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. This antibody gave a positive signal in HepG2 cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76008).

This image was generated using the unpurified version of the product.



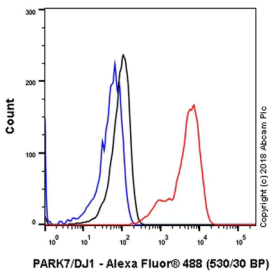
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PARK7/DJ1 antibody [EP2815Y] - BSA and Azide free (ab218373)

PARK7/DJ1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PARK7/DJ1 antibody

This IHC data was generated using the same anti-PARK7 antibody clone, EP2815Y, in a different buffer formulation (cat# ab76008).
ab76008, at 1/250 dilution, staining PARK7/DJ1 in human brain by immunohistochemistry using paraffin-embedded tissue.

This image was generated using the unpurified version of the product.

Heat mediated antigen retrieval was performed with citrate buffer pH 6 before commencing with IHC staining protocol.

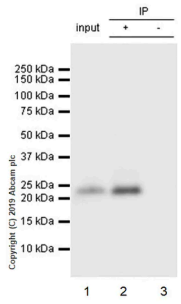


Flow Cytometry (Intracellular) - Anti-PARK7/DJ1 antibody [EP2815Y] - BSA and Azide free (ab218373)

PARK7/DJ1 Flow Cytometry (Intracellular) staining using rabbit Anti-PARK7/DJ1 antibody

This IHC data was generated using the same anti-PARK7 antibody clone, EP2815Y, in a different buffer formulation (cat
ab76008).

Intracellular Flow Cytometry analysis of HepG2 (Human hepatocellular carcinoma epithelial cell) cells labeling PARK7/DJ1 with Purified ab76008 at 1/20 dilution (10µg/ml) (red). Cells were fixed with 4% Paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).

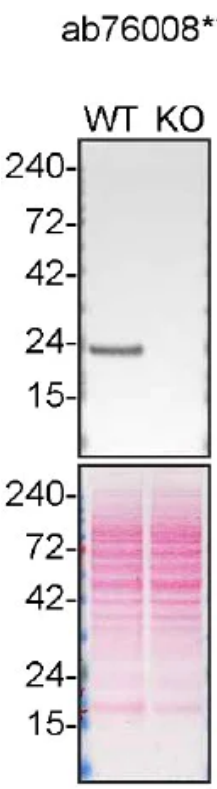


Immunoprecipitation - Anti-PARK7/DJ1 antibody [EP2815Y] - BSA and Azide free (ab218373)

This IHC data was generated using the same anti-PARK7 antibody clone, EP2815Y, in a different buffer formulation (cat# ab76008).
ab76008 (purified) at 1:20 dilution (0.5µg) immunoprecipitating PARK7/DJ1 in Mouse brain lysate.
Lane 1 (input): Mouse brain lysate 10µg
Lane 2 (+): ab76008 & Mouse brain lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab76008 in Mouse brain lysate
For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366) was used for detection at 1:1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-PARK7/DJ1 antibody [EP2815Y] (ab76008)

Predicted band size: 20 kDa



Western blot - Anti-PARK7/DJ1 antibody [EP2815Y] - BSA and Azide free (ab218373)

PARK7/DJ1 Western blot staining using rabbit Anti-PARK7/DJ1 antibody

This data was developed using ab76008, the same antibody clone in a different buffer formulation.

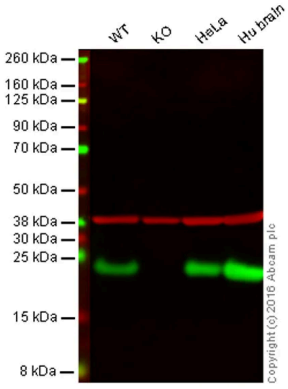
ab76008 was shown to react with PARK7 in wild-type HEK-293T cells in Western blot with loss of signal observed in PARK7 knockout cell line ab266338. Wild-type HEK-293T and PARK7 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 5% milk in TBST for 1 hr before incubation with ab76008 overnight at 4 °C at a 1/5000 dilution. Blots were incubated with secondary antibodies at 0.2 µg/mL before imaging.

This data was provided by YCharOS Inc., an open science company with the mission of characterizing commercially available antibody reagents for all human proteins. Abcam and YCharOS are working together to help address the reproducibility crisis by enabling the life science community to better evaluate commercially available antibodies.
All lanes:
Western blot - Anti-PARK7/DJ1 antibody [EP2815Y] (ab76008) at 1/5000 dilution

Lane 1:
Wild-type HEK-293T lysate at 30 µg

Lane 2:
PARK7 knock-out HEK-293T lysate at 30 µg

Lane 2:
Western blot - Human PARK7 (DJ1) knockout HEK-293T cell line (ab266338) at 30 µg



Western blot - Anti-PARK7/DJ1 antibody [EP2815Y] - BSA and Azide free (ab218373)

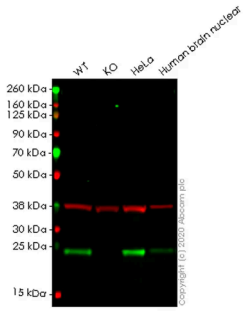
PARK7/DJ1 Western blot staining using rabbit Anti-PARK7/DJ1 antibody

This WB data was generated using the same anti-PARK7 antibody clone, EP2815Y, in a different buffer formulation (cat# ab76008).
Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: PARK7/DJ1 knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lane 4: Human brain tissue lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab76008 observed at 24 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab76008 was shown to specifically react with PARK/DJ1 when PARK/DJ1 knockout samples were used. Wild-type and PARK/DJ1 knockout samples were subjected to SDS-PAGE. ab76008 and ab8245 (loading control to GAPDH) were both diluted 1/10 000 and incubated overnight at 4°C. 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 1/10 000 dilution for 1 h at room temperature before imaging.

All lanes:
Western blot - Anti-PARK7/DJ1 antibody [EP2815Y] (ab76008)

Predicted band size: 20 kDa



Western blot - Anti-PARK7/DJ1 antibody [EP2815Y] - BSA and Azide free (ab218373)

PARK7/DJ1 Western blot staining using rabbit Anti-PARK7/DJ1 antibody

This data was developed using ab76008, the same antibody clone in a different buffer formulation. **Lanes 1-4:** Merged signal (red and green). Green - ab76008 observed at 24 kDa. Red - loading control ab8245 observed at 36 kDa.

ab76008 Anti-PARK7/DJ1 antibody [EP2815Y] was shown to specifically react with PARK7/DJ1 in wild-type HEK-293T cells. Loss of signal was observed when knockout cell line ab266338 (knockout cell lysate ab257016) was used. Wild-type and PARK7/DJ1 knockout samples were subjected to SDS-PAGE. ab76008 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-PARK7/DJ1 antibody [EP2815Y] (ab76008) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate at 20 µg

Lane 2:
Western blot - Human PARK7 (DJ1) knockout HEK-293T cell lysate (ab257016) at 20 µg

Lane 3:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

Lane 4:
Human brain nuclear fraction tissue 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: 20 kDa

Observed band size: 24 kDa

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