Product Datasheet

OPA1 Antibody (1E8-1D9) - BSA Free
NBP1-71656

Unit Size: 0.1 ml

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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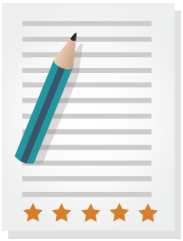
Updated 9/9/2025 v.20.1



NBP1-71656

OPA1 Antibody (1E8-1D9) - BSA Free

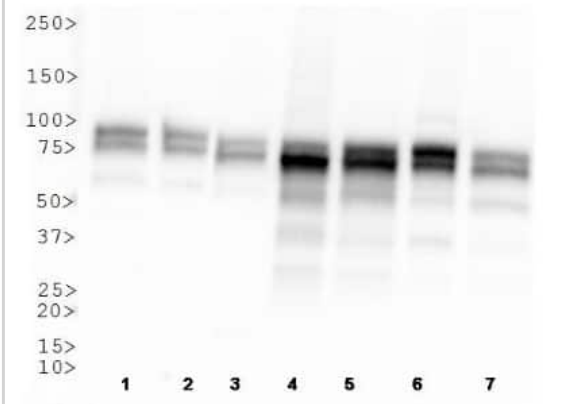
Product Information	
Unit Size	0.1 ml
Concentration	1.0 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	1E8-1D9
Preservative	0.02% Sodium Azide
Isotype	IgG1 Kappa
Purity	Protein G purified
Buffer	PBS

Product Description	
Description	Novus Biologicals Mouse OPA1 Antibody (1E8-1D9) - BSA Free (NBP1-71656) is a monoclonal antibody validated for use in IHC, WB, ICC/IF and Simple Western. Anti-OPA1 Antibody: Cited in 4 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Mouse
Gene ID	4976
Gene Symbol	OPA1
Species	Human, Mouse, Rat, Bovine, Chinese Hamster
Immunogen	Human OPA1 [Swiss-Prot# O60313].

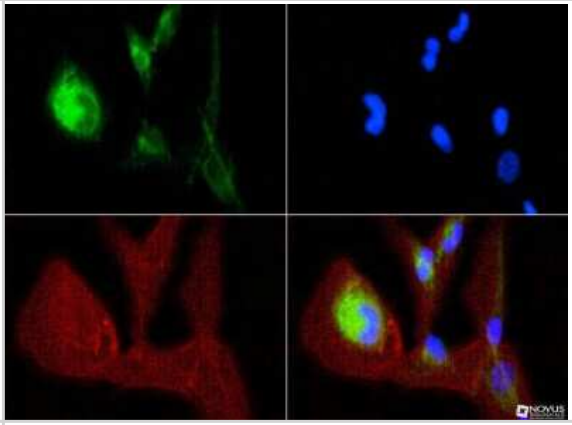
Product Application Details	
Applications	Western Blot, Simple Western, Immunohistochemistry-Paraffin, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry
Recommended Dilutions	Western Blot 1:1000, Simple Western 1:25, Immunohistochemistry 1:100, Immunocytochemistry/ Immunofluorescence 1:50, Immunohistochemistry-Paraffin 1:100
Application Notes	In Western blot, multiple protein isoforms can be seen at ~90, 80 and 65 kDa. In Simple Western only 10 - 15 uL of the recommended dilution is used per data point. See Simple Western Antibody Database for Simple Western validation: Tested in HeLa lysate 1.0 mg/mL, separated by Size, antibody dilution of 1:25, apparent MW was 93 kDa. Separated by Size-Wes, Sally Sue/Peggy Sue.

Images

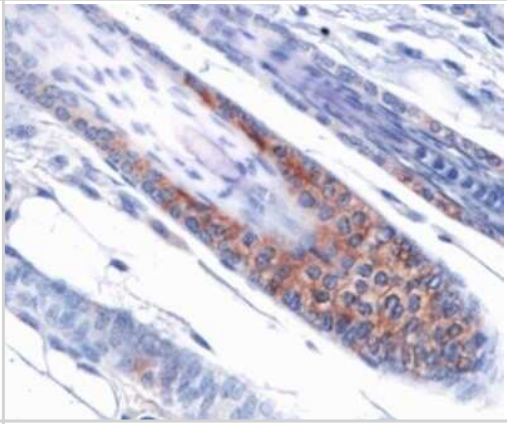
Western Blot: OPA1 Antibody (1E8-1D9) [NBP1-71656] - Analysis of OPA1 expression in 1) HeLa 2) MEF 3) HepG2 4) A431 5) CHO 6)PC12 and 7) Ntera2 whole cell lysates using NBP1-71656.



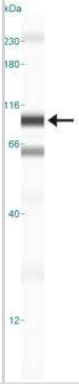
Immunocytochemistry/Immunofluorescence: OPA1 Antibody (1E8-1D9) [NBP1-71656] - OPA1 antibody was tested in ARPE-19 cells with FITC (green). Nuclei and actin were counterstained with DAPI (blue) and Phalloidin (red).

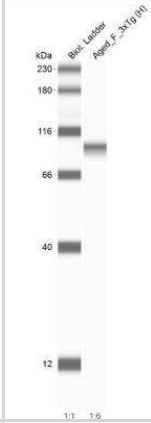
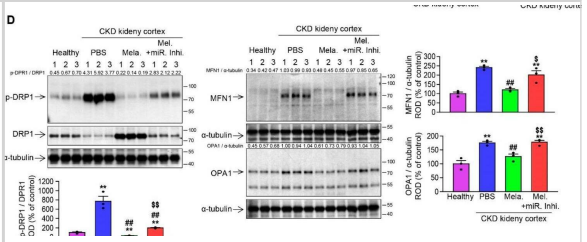
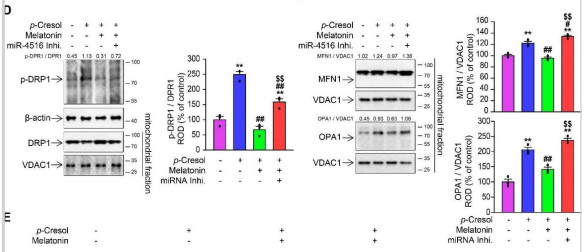


Immunohistochemistry: OPA1 Antibody (1E8-1D9) [NBP1-71656] - Analysis of OPA1 on mouse skin using NBP1-71656.



Simple Western: OPA1 Antibody (1E8-1D9) [NBP1-71656] - Image shows a specific band for OPA1 in 1.0 mg/mL of HeLa lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.



Simple Western: OPA1 Antibody (1E8-1D9) - BSA Free [NBP1-71656] - Image shows a specific band for OPA1 in 0.1 ug/uL mouse hippocampus tissue lysate. Primary antibody dilution: 1:200. Image from verified customer review.	
Melatonin-induced miR-4516 improves mitochondrial dynamics and enhances PINK1/Parkin-mediated mitophagy in the CKD mouse model. (A) Representative TEM images of mitochondria in renal cortex of CKD mice either treated with melatonin (0.2 mg/kg), or both melatonin and miR-4516 inhibitor (300 nM). Each group received two intraperitoneal injections per week (every 3–4 days)—a total of 4 injections for 2 weeks. All comparisons were made against healthy kidney control (scare bar = 1 μm) (B,C) Measurement of mitochondrial area and number of abnormal mitochondria in renal cortex of each groups (n = 3). (D) The expression of p-DRP1, DRP1, MFN1, and OPA1 in renal cortex of each group. Protein expression level were quantified by densitometry and normalized to DRP1 or α-tubulin levels (n = 3). (E) Immunofluorescence staining for LAMP-1 (green) and COX4 (red) in renal cortex of each group. Scare bar = 20 μm. (F) Expression of LC3B-II/LC3B-I ratio and P62 in renal cortex of each groups (n = 3). The values represent mean +/- SEM, * p < 0.05, ** p < 0.01 versus healthy kidney cortex; #p < 0.05, ##p < 0.01 versus PBS; $p < 0.05, $$p < 0.01 versus melatonin. The α-tubulin was used as Western blot loading control for whole tissue lysates. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/34359852), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	
Melatonin-induced miR-4516 rescues abnormal mitochondrial functions. (A) Representative TEM images for TH1 cells either treated with p-Cresol alone, melatonin under p-Cresol exposure, or miR-4516 inhibitor (50 nM for 48 h) before melatonin treatment, compared with TH1 control (scare bar = 1 μm). (B,C) Measurement of mitochondrial area and number of abnormal mitochondria in each experimental group (n = 3). (D) The effects of melatonin on p-DRP1, DRP1, MFN1, and OPA1 were reversed with miR-4516 inhibitor. Protein expression level was detected using western blot, quantified by densitometry, and normalized to DRP1 or VDAC1 levels (n = 3) respectively. (E,F) Measurement of TMRE (E) and MitoSOX (F) positive cells for each group (n = 3). The values represent mean +/- SEM, * p < 0.05, ** p < 0.01 versus control; #p < 0.05, ##p < 0.01 versus p-Cresol exposure; $$p < 0.01 versus melatonin-treated cells in p-Cresol exposure. The β-actin or VDAC1 was used as Western blot loading control for whole cell lysates or mitochondrial fraction, respectively. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/34359852), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	

Publications

Acosta CH, Clemons GA, Citadin CT et al. PRMT7 can prevent neurovascular uncoupling, blood-brain barrier permeability, and mitochondrial dysfunction in repetitive and mild traumatic brain injury Experimental neurology 2023-05-15 [PMID: 37196697] (Simple Western, Mouse)

Wu, Z, Tantray, I Et al. MISTERMINATE Mechanistically Links Mitochondrial Dysfunction with Proteostasis Failure. Mol Cell 2019-08-22 [PMID: 31378462] (IF/IHC, Mouse)

Bollu LR, Ren J, Blessing AM et al. Involvement of de novo synthesized palmitate and mitochondrial EGFR in EGF induced mitochondrial fusion of cancer cells. Cell Cycle 2014-01-01 [PMID: 25483192]

Montaigne D, Marechal X, Coisne A et al. Myocardial Contractile Dysfunction is Associated with Impaired Mitochondrial Function and Dynamics in Type 2 Diabetic but not in Obese Patients. Circulation. 2014-06-13 [PMID: 24928681] (WB, Human)

Procedures

Western Blot protocol for OPA1 Antibody (NBP1-71656)
Western Blot Protocol

1. Perform SDS-PAGE on samples to be analyzed, loading 10-25 ug of total protein per lane.
2. Transfer proteins to PVDF membrane according to the instructions provided by the manufacturer of the membrane and transfer apparatus.
3. Stain the membrane with Ponceau S (or similar product) to assess transfer success, and mark molecular weight standards where appropriate.
4. Rinse the blot TBS -0.05% Tween 20 (TBST).
5. Block the membrane in 5% Non-fat milk in TBST (blocking buffer) for at least 1 hour.
6. Wash the membrane in TBST three times for 10 minutes each.
7. Dilute primary antibody in blocking buffer and incubate overnight at 4C with gentle rocking.
8. Wash the membrane in TBST three times for 10 minutes each.
9. Incubate the membrane in diluted HRP conjugated secondary antibody in blocking buffer (as per manufacturer's instructions) for 1 hour at room temperature.
10. Wash the blot in TBST three times for 10 minutes each (this step can be repeated as required to reduce background).
11. Apply the detection reagent of choice in accordance with the manufacturer's instructions.

Immunohistochemistry-Paraffin protocol for OPA1 Antibody (NBP1-71656)
Immunohistochemistry-Paraffin Embedded Sections

Antigen Unmasking:
Bring slides to a boil in 10 mM sodium citrate buffer (pH 6.0) then maintain at a sub-boiling temperature for 10 minutes. Cool slides on bench-top for 30 minutes (keep slides in the sodium citrate buffer at all times).

Staining:
1. Wash sections in deionized water three times for 5 minutes each.
2. Wash sections in PBS for 5 minutes.
3. Block each section with 100-400 ul blocking solution (1% BSA in PBS) for 1 hour at room temperature.
4. Remove blocking solution and add 100-400 ul diluted primary antibody. Incubate overnight at 4 C.
5. Remove antibody solution and wash sections in wash buffer three times for 5 minutes each.
6. Add 100-400 ul HRP polymer conjugated secondary antibody. Incubate 30 minutes at room temperature.
7. Wash sections three times in wash buffer for 5 minutes each.
8. Add 100-400 ul DAB substrate to each section and monitor staining closely.
9. As soon as the sections develop, immerse slides in deionized water.
10. Counterstain sections in hematoxylin.
11. Wash sections in deionized water two times for 5 minutes each.
12. Dehydrate sections.
13. Mount coverslips.

Immunocytochemistry/ Immunofluorescence Protocol for OPA1 Antibody (NBP1-71656)
Immunocytochemistry Protocol

Culture cells to appropriate density in 35 mm culture dishes or 6-well plates.

1. Remove culture medium and wash the cells briefly in PBS. Add 10% formalin to the dish and fix at room temperature for 10 minutes.
2. Remove the formalin and wash the cells in PBS.
3. Permeablize the cells with 0.1% Triton X100 or other suitable detergent for 10 min.
4. Remove the permeablization buffer and wash three times for 10 minutes each in PBS. Be sure to not let the specimen dry out.
5. To block nonspecific antibody binding, incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
6. Add primary antibody at appropriate dilution and incubate overnight at 4C.
7. Remove primary antibody and replace with PBS. Wash three times for 10 minutes each.
8. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
9. Remove secondary antibody and replace with PBS. Wash three times for 10 minutes each.
10. Counter stain DNA with DAPi if required.

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Products Related to NBP1-71656

NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB7539	Goat anti-Mouse IgG (H+L) Secondary Antibody [HRP]
NBP1-43319-0.5mg	Mouse IgG1 Kappa Isotype Control (P3.6.2.8.1)

Limitations
This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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