Product Datasheet

OGG1 Antibody
NB100-106

Unit Size: 0.1 ml

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

Reviews: 4  Publications: 99

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Updated 2/25/2020 v.20.1

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### Product Information

<table>
<thead>
<tr>
<th><strong>Unit Size</strong></th>
<th>0.1 ml</th>
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<tbody>
<tr>
<td><strong>Concentration</strong></td>
<td>1.0 mg/ml</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.</td>
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<tr>
<td><strong>Clonality</strong></td>
<td>Polyclonal</td>
</tr>
<tr>
<td><strong>Preservative</strong></td>
<td>0.05% Sodium Azide</td>
</tr>
<tr>
<td><strong>Isotype</strong></td>
<td>IgG</td>
</tr>
<tr>
<td><strong>Purity</strong></td>
<td>Immunogen affinity purified</td>
</tr>
<tr>
<td><strong>Buffer</strong></td>
<td>PBS</td>
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<tr>
<td><strong>Target Molecular Weight</strong></td>
<td>39 kDa</td>
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### Product Description

<table>
<thead>
<tr>
<th><strong>Host</strong></th>
<th>Rabbit</th>
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<tbody>
<tr>
<td><strong>Gene ID</strong></td>
<td>4968</td>
</tr>
<tr>
<td><strong>Gene Symbol</strong></td>
<td>OGG1</td>
</tr>
<tr>
<td><strong>Species</strong></td>
<td>Human, Mouse, Rat, Primate, Rabbit</td>
</tr>
<tr>
<td><strong>Reactivity Notes</strong></td>
<td>Rabbit reactivity reported in scientific literature (PMID: 16651612).</td>
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<tr>
<td><strong>Immunogen</strong></td>
<td>A peptide derived from human Ogg1 (within amino acids 1-100). [UniProt# O15527]</td>
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### Product Application Details

<table>
<thead>
<tr>
<th><strong>Applications</strong></th>
<th>Western Blot, ELISA, Flow Cytometry, Flow (Intracellular), Immunoblotting, Immunocytochemistry/Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, Immunoprecipitation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application Notes</strong></td>
<td>Use in Immunoprecipitation Co-IP (PMID: 20956573) and ELISA (PMID: 19506022) has been reported in the literature. Use in Immunoblotting reported in multiple pieces of scientific literature. In WB, it recognizes a band at ~39 kDa, representing Ogg1. Flow data from customer review. The observed molecular weight of the protein may vary from the listed predicted molecular weight due to post translational modifications, post translation cleavages, relative charges, and other experimental factors.</td>
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Images

Immunocytochemistry/Immunofluorescence: OGG1 Antibody [NB100-106] - A431 cells were fixed for 10 minutes using 10% formalin and then permeabilized for 5 minutes using 1X TBS + 0.5% Triton-X100. The cells were incubated with anti-hOgg1 [NB100-106] at a 1:200 dilution overnight at 4C and detected with an anti-rabbit Dylight 488 (Green) at a 1:500 dilution. Alpha Tubulin (DM1A) [NB100-690] was used as a co-stain at a 1:1000 dilution and detected with an anti-mouse Dylight 550 (Red) at a 1:500 dilution. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 40X objective.

Immunohistochemistry: OGG1 Antibody [NB100-106] - The H&E staining (a)-(c)) and IHC staining for oxidative DNA damage, 8-oxo-dGuo (d)-(g)), and DNA repair enzyme hOGG1 ((h)-(j)) in control subjects and tumor and nontumor lesions of BCC patients. Values given are mean +/- SD. The statistical significance of differences between the control and case and between adjacent epidermis and tumor lesions of BCC patients was evaluated by nonparametric variables with Kruskal-Wallis test followed by Dunnett's post hoc test. * P < 0.05, *P < 0.01, *P < 0.001 compared to control; ##P < 0.01, ###P < 0.001 compared to tumor lesions of BCC patients. Image collected and cropped by CiteAb from the following publication (http://www.hindawi.com/journals/omcl/2016/5934024/), licensed under a CC-BY licence.

Flow Cytometry: OGG1 Antibody [NB100-106] - An intracellular stain was performed on Jurkat Cells with NB100-106 and a matched isotype control. Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 2.5 ug/mL for 30 minutes at room temperature, followed by Rabbit IgG (H+L) Cross-Adsorbed Secondary Antibody, Dylight 550.

Western Blot: OGG1 Antibody [NB100-106] - Analysis of Ogg1 expression in Jurkat whole cell lysate.
Immunohistochemistry-Frozen: OGG1 Antibody [NB100-106] - Detection of OGG1 in formaldehyde-fixed frozen sections of the substantia nigra from a Rhesus macaque (Macaca mulatta) using NB100-106 at 10 ug/mL. Photo courtesy of Glen Kisby, Oregon Health Sciences University.

Immunohistochemistry: OGG1 Antibody [NB100-106] - Staining of human tonsil, germinal center and mantle zone.


Immunohistochemistry: OGG1 Antibody [NB100-106] - Figure 5 IHC-P analysis of hOGG1 protein expression in serous ovarian cancer: (A) Normal ovarian tissue treated with anti-hOGG1 antibody, biotinylated anti-rabbit IgG secondary antibody, and avidin-biotin-peroxidase complex, and counterstained with p-dimethylaminobenzaldehyde reagent (magnification 100 x); (B) serous cystadenoma with positive staining (magnification 200 x); (C) LG-SOC tissue with moderate positive staining (magnification 200 x); and (D) HG-SOC with negative staining (magnification 200 x). Black arrow pointed at the immunostained epithelial cells. Image collected and cropped by CiteAb from the following publication (http://ovarianresearch.biomedcentral.com/articles/10.1186/1757-2215-6-74), licensed under a CC-BY licence.
Flow Cytometry: OGG1 Antibody [NB100-106] - Baseline Ogg1 expression in human PBMC from a healthy donor. Image from verified.customer review.

Flow (Intracellular): OGG1 Antibody [NB100-106] - An intracellular stain was performed on HeLa cells with NB100-106C (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 2.5 µg/mL for 30 minutes at room temperature. Both antibodies were conjugated to Dylight 650.
<table>
<thead>
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<tbody>
<tr>
<td>Zhan Y, Raza MU, Yuan L, Zhu MY Critical Role of Oxidatively Damaged DNA in Selective Noradrenergic Vulnerability Neuroscience Nov 5 2019 12:00AM [PMID: 31698021] (WB, Rat)</td>
</tr>
<tr>
<td>Wang J, Nagy N, Masucci MG The Epstein-Barr virus nuclear antigen-1 upregulates the cellular antioxidant defense to enable B-cell growth transformation and immortalization Oncogene Sep 11 2019 12:00AM [PMID: 31511648]</td>
</tr>
<tr>
<td>Kumagae Y, Hirahashi M, Takizawa K et al. Overexpression of MTH1 and OGG1 proteins in ulcerative colitis-associated carcinogenesis Oncol Lett May 25 2018 12:00AM [PMID: 30008864] (IHC, Human)</td>
</tr>
<tr>
<td>Kulikova E, Boreyko A, Bulanova T et al. Visualization of complex DNA damage along accelerated ions tracks EPJ Web Conf. 2018 Apr 18 (ICC/IF, Human)</td>
</tr>
<tr>
<td>Iida R, Ueki M, Yasuda T. knockout of Mpv17-Like Protein (M-LPH) Gene in Human Hepatoma Cells Results in Impairment of mtDNA Integrity through Reduction of TFAM, OGG1, and LIG3 at the Protein Levels. Oxid Med Cell Longev. Sep 17 2018 12:00AM [PMID: 30310528] (WB, Human)</td>
</tr>
</tbody>
</table>

Procedures

Western blot Protocol for Ogg1 Antibody (NB100-106)

Western Blot Procedure

1. Run 50 ug of protein on a 4-20% Tris-glycine mini-gel at 125V for 90 minutes.
2. Equilibrate gel, nitrocellulose membrane, Whatman paper, and blotting pads in transfer buffer for 15 minutes.
3. Transfer protein to the membrane at 25V for 90 minutes.
4. Allow membrane to air-dry.
5. Block membrane with 1XPBS/3% BSA for 1 hour at room temperature (23-27 degrees C).
6. Wash membrane twice, for 5 minutes each, with 1XPBS/0.05% Tween-20 (PBST).
7. Incubate membrane with NB100-106 (anti-hOGG1), diluted in 1XPBS/1% BSA, for 1 hour at room temperature.
8. Wash membrane once for 15 minutes, then four times for 5 minutes each, with PBST.
9. Incubate membrane with goat anti-rabbit IgG-HRP, diluted in 1XPBS/1% BSA, for 1 hour at room temperature.
10. Wash membrane once for 15 minutes, then four times for 5 minutes each, with PBST.

Immunohistochemistry Protocol for Ogg1 Antibody (NB100-106)

Immunohistochemistry - FFPE sections

I. Deparaffinization:
A. Treat slides with Xylene: 3 changes for 5 minutes each. Drain slides for 10 seconds between changes.
B. Treat slides with 100% Reagent Alcohol: 3 changes for 5 minutes each. Drain slides for 10 seconds between changes.

II. Quench Endogenous Peroxidase:
A. Place slides in peroxidase quenching solution: 15-30 minutes.

To Prepare 200 ml of Quenching Solution:
Add 3 ml of 30% Hydrogen Peroxide to 200 ml of Methanol.
Use within 4 hours of preparation
B. Place slides in distilled water: 2 changes for 2 minutes each.

III. Retrieve Epitopes:
A. Preheat Citrate Buffer. Place 200 ml of Citrate Buffer Working Solution into container, cover and place into steamer. Heat to 90-96 degrees Celcius.
B. Place rack of slides into hot Citrate Buffer for 20 minutes. Cover.
C. Carefully remove container with slides from steamer and cool on bench, uncovered, for 20 minutes.
D. Slowly add distilled water to further cool for 5 minutes.
E. Rinse slides with distilled water. 2 changes for 2 minutes each.

IV. Immunostaining Procedure:
A. Remove each slide from rack and circle tissue section with a hydrophobic barrier pen (e.g. Liquid Blocker-Super Pap Pen).
B. Flood slide with Wash Solution. Do not allow tissue sections to dry for the rest of the procedure.
C. Drain wash solution and apply 4 drops of Blocking Reagent to each slide and incubate for 15 minutes.
D. Drain Blocking Reagent (do not wash off the Blocking Reagent), apply 200 ul of primary antibody solution to each slide, and incubate for 1 hour.
E. Wash slides with Wash Solution: 3 changes for 5 minutes each.
F. Drain wash solution, apply 4 drops of Secondary antibody to each slide and incubate for 1 hour.
G. Wash slides with Wash Solution: 3 changes for 5 minutes each.
H. Drain wash solution, apply 4 drops of DAB Substrate to each slide and develop for 5-10 minutes. Check development with microscope.
I. Wash slides with Wash Solution: 3 changes for 5 minutes each.
J. Drain wash solution, apply 4 drops of Hematoxylin to each slide and stain for 1-3 minutes. Increase time if darker counterstaining is desired.
K. Wash slides with Wash Solution: 2-3 changes for 2 minutes each.
L. Drain wash solution and apply 4 drops of Bluing Solution to each slide for 1-2 minutes.
M. Rinse slides in distilled water.
N. Soak slides in 70% reagent alcohol: 3 minutes with intermittent agitation.
O. Soak slides in 95% reagent alcohol: 2 changes for 3 minutes each with intermittent agitation.
P. Soak slides in 100% reagent alcohol: 3 changes for 3 minutes each with intermittent agitation. Drain slides for 10 seconds between each change.
Q. Soak slides in Xylene: 3 changes for 3 minutes each with intermittent agitation. Drain slides for 10 seconds between each change.
R. Apply 2-3 drops of non-aqueous mounting media to each slide and mount coverslip.
S. Lay slides on a flat surface to dry prior to viewing under microscope.

NOTES:
Use treated slides (e.g. HistoBond) to assure adherence of FFPE sections to slide.
Prior to deparaffinization, heat slides overnight in a 60 degrees Celcius oven.
All steps in which Xylene is used should be performed in a fume hood.
For Epitope Retrieval, a microwave or pressure cooker may be substituted for the steamer method. Adjust times as necessary depending on conditions.
For the initial IHC run with a new primary antibody, test tissues with and without Epitope Retrieval. In some instances, Epitope Retrieval may not be necessary.
200 ul is the recommended maximum volume to apply to a slide for full coverage. Using more than 200 ul may allow solutions to wick off the slide and create drying artifacts. For small tissue sections less than 200 ul may be used.
5 minutes of development with DAB Substrate should be sufficient. Do not develop for more than 10 minutes. If 5 minutes of development causes background staining, further dilution of the primary antibody may be necessary.
Hematoxylin should produce a light nuclear counterstain so as not to obscure the DAB staining. Counterstain for 1-1.5 minutes for nuclear antigens. Counterstain for 2-3 minutes for cytoplasmic and membranous antigens. If darker counterstaining is desired increase time (up to 10 minutes).

**ICC/IF Protocol for Ogg1 Antibody (NB100-106)**

**Immunocytochemistry Protocol**

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

1. Remove culture medium and add 10% formalin to the dish. Fix at room temperature for 5-10 minutes.
2. Remove the formalin and add 0.5% Triton-X 100 in TBS to permeabilize the cells. Incubate for 5-10 minutes.
3. Remove the permeabilization buffer and add wash buffer (i.e. PBS or PBS with 0.1% Tween-20). Be sure to not let the specimen dry out. Gently wash three times for 10 minutes.
4. Alternatively, cells can be fixed with -20C methanol for 10 min at room temperature. Remove the methanol and rehydrate in PBS for 10 min before proceeding.
5. To block nonspecific antibody binding incubate in 10% normal goat serum for 1 hour at room temperature.
6. Add primary antibody at appropriate dilution and incubate at room temperature for 1 hour or at 4 degrees C overnight.
7. Remove primary antibody and replace with wash buffer. Gently wash three times for 10 minutes.
8. Add secondary antibody at the appropriate dilution. Incubate for 1 hour at room temperature.
9. Remove antibody and replace with wash buffer. Gently wash three times for 10 minutes.
10. Nuclei can be staining with 4',6' diamino phenylindole (DAPI) at 0.1 ug/ml, or coverslips can be directly mounted in media containing DAPI.
11. Cells can now be viewed with a fluorescence microscope.

*The above information is only intended as a guide. The researcher should determine what protocol best meets their needs. Please follow proper laboratory procedures for the disposal of formalin.
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.

For more information on our 100% guarantee, please visit www.novusbio.com/guarantee

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