

# Product Datasheet

## Glyoxalase I Antibody (Glo1a) - BSA Free NBP1-19015

Unit Size: 0.1 ml

Store at -20C. Avoid freeze-thaw cycles.

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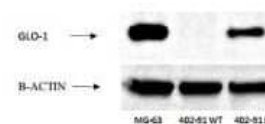
**NBP1-19015**

Glyoxalase I Antibody (Glo1a) - BSA Free

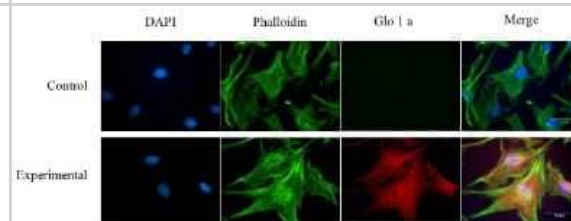
Product Information	
Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at -20C. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	Glo1a
Preservative	0.05% Sodium Azide
Isotype	IgG1 Kappa
Purity	Protein G purified
Buffer	Tris-Glycine and 0.15M NaCl
Target Molecular Weight	21 kDa
Product Description	
Host	Mouse
Gene ID	2739
Gene Symbol	GLO1
Species	Human, Mouse
Immunogen	Full length human GLO1 protein [Swiss-Prot #Q04760].
Product Application Details	
Applications	Western Blot, Simple Western, ELISA, Immunocytochemistry/Immunofluorescence, Immunohistochemistry-Paraffin, Immunoprecipitation
Recommended Dilutions	Western Blot, Simple Western 1:50, ELISA 0.15 ng / 1 ug protein, Immunocytochemistry/ Immunofluorescence 10 ug/ml, Immunoprecipitation reported in scientific literature, Immunohistochemistry-Paraffin reported in scientific literature (10.3892/ol.2021.12808)
Application Notes	<p>This GLO1 antibody is useful for ELISA, Immunocytochemistry/Immunofluorescence and Western blot, where a band is seen approx. 21 kDa.</p> <p>In Simple Western only 10 - 15 uL of the recommended dilution is used per data point.</p> <p>See <a href="#">Simple Western Antibody Database</a> for Simple Western validation: Tested in HeLa lysate 0.5 mg/mL, separated by Size, antibody dilution of 1:50, apparent MW was 32 kDa. Separated by Size-Wes, Sally Sue/Peggy Sue.</p> <p>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.</p>

## Images

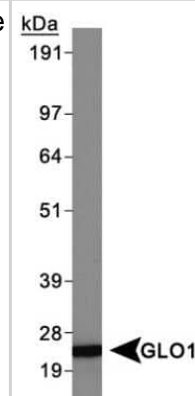
Western Blot: Glyoxalase I Antibody (Glo1a) [NBP1-19015] - Detection of GLO-1 in human cell lines. Lane 1,2 and 3: MG-63 osteosarcoma cell line (positive control), 402-91 liposarcoma cell line and 402-91 liposarcoma cell line resistant to trabectedine. Image from verified customer review.



Immunocytochemistry/Immunofluorescence: Glyoxalase I Antibody (Glo1a) [NBP1-19015] - Immunostaining of human retinal endothelial cells. Immunoreactivity for hGlx-1 was detected in human retinal endothelial cells stained with Glo1a mAb using anti mouse IgG Texas Red as secondary Ab. The cells were counter stained with phalloidin (green) and DAPI (blue), nuclear stain. No reactivity was detected in control cells, stained without Go1a mAb. Figure is a representative of 3 independent experiments. Photo courtesy of Dr. Nagaraj, Case Western Reserve University.



Western Blot: Glyoxalase I Antibody (Glo1a) [NBP1-19015] - HeLa whole cell extracts.



Simple Western: Glyoxalase I Antibody (Glo1a) [NBP1-19015] - Simple Western lane view shows a specific band for GLO1 in 0.5 mg/ml of HeLa lysate. This experiment was performed under reducing conditions using the 12-230kDa separation system. \* Non-specific interaction with the 230 kDa Simple Western standard may be seen with this antibody.



Simple Western: Glyoxalase I Antibody (Glo1a) [NBP1-19015] - Simple Western lane view shows a specific band detected for GLO1 in HeLa lysate. This experiment was performed under reducing conditions using the Wes or Sally Sue separation system 12-230kDa (or 66-440kDa).

kDa HeLa 0.5 mg/ml

230-  
180-  
116-  
66-  
40-  
12-

## Publications

Inoue M, Nakagawa Y, Azuma M et al. The PKM2 inhibitor shikonin enhances piceatannol-induced apoptosis of glyoxalase I-dependent cancer cells Genes to cells : devoted to molecular & cellular mechanisms 2023-11-14 [PMID: 37963646] (Western Blot, Human)

Suh EH, Geraldles CFGC, Chirayil S et al. Detection of glucose-derived D- and L-lactate in cancer cells by the use of a chiral NMR shift reagent Cancer & Metabolism 2021-12-01 [PMID: 34742347] (Western Blot)

Motomura H, Ozaki A, Tamori S et al. Glyoxalase 1 and protein kinase Clambda as potential therapeutic targets for late stage breast cancer Oncology Letters 2021-05-24 [PMID: 34093768] (IHC-P, Human)

Punzalan LL, Jiang L, Mao D et al. Chemoproteomic Profiling of a Pharmacophore-Focused Chemical Library Cell Chem Biol 2020-04-28 [PMID: 32402240] (WB, Human)

Luengo A, Abbott KL, Davidson SM, et al. Reactive metabolite production is a targetable liability of glycolytic metabolism in lung cancer Nat Commun 2019-12-06 [PMID: 31811141] (WB, Mouse)

Halbert D, Domenyuk V, Spetzler D et al. Aptamers and uses thereof United States Patent Application US 9958448 B2 2018-01-01

Zeng S, Zhang QY, Huang J et al. Opposing roles of RAGE and Myd88 signaling in extensive liver resection. The FASEB Journal: Official Publication of the Federation of American Societies for Experimental Biology. 2011-11-10 [PMID: 22075646] (WB, Mouse)

Mailankot M et al. Glyoxalase I activity and immunoreactivity in the aging human lens. Biogerontology. 2009-02-24 [PMID: 19238574] (IP, WB, Mouse)

## Procedures

### Western Blot protocol for GLO1 Antibody (NBP1-19015)

Glyoxalase I Antibody (Glo1a):

Western Blot Protocol

1. Perform SDS-PAGE (4-12% MOPS) on samples to be analyzed, loading 30 ug of total protein per lane.
2. Transfer proteins to Nitrocellulose according to the instructions provided by the manufacturer of the transfer apparatus.
3. Rinse membrane with dH<sub>2</sub>O and then stain the blot using Ponceau S for 1-2 minutes to access the transfer of proteins onto the nitrocellulose membrane. Rinse the blot in water to remove excess stain and mark the lane locations and locations of molecular weight markers using a pencil.
4. Rinse the blot in TBS for approximately 5 minutes.
5. Block the membrane using 5% BSA in TBS + Tween, 1 hour at RT.
6. Rinse the membrane in dH<sub>2</sub>O and then wash the membrane in wash buffer [TBS + 0.1% Tween] 3 times for 10 minutes each.
7. Dilute the rabbit anti-GLO1 primary antibody (NBP1-19015) in blocking buffer and incubate 1 hour at room temperature.
8. Rinse the membrane in dH<sub>2</sub>O and then wash the membrane in wash buffer [TBS + 0.1% Tween] 3 times for 10 minutes each.
9. Apply the diluted mouse-IgG HRP-conjugated secondary antibody in blocking buffer (as per manufacturers instructions) and incubate 1 hour at room temperature.
10. Wash the blot in wash buffer [TBS + 0.1% Tween] 3 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 manufacturers instructions (Pierce ECL).

**\*\*Note:** Tween-20 can be added to the blocking or antibody dilution buffer at a final concentration of 0.05-0.2%, provided it does not interfere with antibody-antigen binding.

### Immunocytochemistry/Immunofluorescence Protocol for GLO1 Antibody (NBP1-19015)

Glyoxalase I Antibody (Glo1a):

Immunocytochemistry Protocol

1. Cells are cultured one day prior to the experiment.
2. After washing twice with PBS and they are fixed with 4% paraformaldehyde in PBS at ?20C for 15 min.
3. Followed by two washes with PBS, they are permeabilized with 0.1% Triton X-100 in PBS at ?20C for 5 min.
4. To remove the detergent the cells are washed 5 times with PBS and then blocked with 2.5 % goat serum in PBS for 2 hr at RT.
5. Cells are then incubated with GLO1 mAb (10 &#956;g/ml) in PBS for 1 hr at RT and washed twice for 5 min with PBS.
6. Cells are incubated with secondary antibody (anti-mouse IgG) conjugated with Texas Red (1: 400 dilution in PBS) (Molecular Probes) for 1 hr at RT.

Images of lenses were acquired on a Leica DMI 6000 B inverted microscope using a 20x objective connected to a Retiga EXI camera (Q-imaging Vancouver British Columbia). Secondary Ab contribution to immune reaction was verified by staining without the primary Ab.



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### **Products Related to NBP1-19015**

NB800-PC1	HeLa Whole Cell Lysate
HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
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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