



cell signaling solutions

Certificate of Analysis

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Nitrotyrosine Immunoblotting Control

Catalog # 12-354

Lot # 23267

Product Description: A combination of three proteins: nitrated bovine superoxide dismutase (SOD) ~16kDa, nitrated bovine serum albumin (BSA) ~66kDa, and nitrated rabbit muscle myosin ~215kDa. A dimer of SOD is occasionally observed at ~32kDa. The proteins were nitrated using peroxynitrite (Catalog # 20-107).¹

Use: Dilute 1:1 with Reducing Sample Buffer and boil for five minutes to reduce the preparation. Load 20µl of reduced control per lane for immunoblot analysis. This preparation may be used as a positive control for Upstate's Nitrotyrosine antibodies (Catalog # 06-284 and 05-233).

Molecular Weight: Approximately 16, 66 and 215kDa. Occasionally an approximate 32kDa protein will be seen representing SOD dimer.

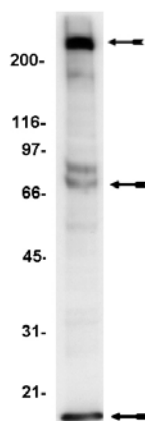
Blot Applications: 40 immunoblots, provided in 400µl of PBS, pH 7.4. Protein concentration: nitrated-myosin 16µg/ml; nitrated-BSA 57µg/ml; nitrated-SOD 80µg/ml. Total protein concentration: 153µg/ml. Frozen solution.

Storage and Stability: Stable for 1 year at -20°C from date of shipment. Aliquot to avoid repeated freezing and thawing. For maximum recovery of the product, centrifuge the original vial after thawing and prior to removing the cap.

**FOR RESEARCH USE ONLY
NOT FOR USE IN HUMANS**

Quality Control Testing

Immunoblot Analysis: 10µl of this lot of Nitrotyrosine Immunoblotting Control was detected in an immunoblot using polyclonal anti-Nitrotyrosine, (Catalog # 06-284, 2µg/ml). A 1:2000 dilution of goat anti-rabbit IgG conjugated to HRP was used as the secondary antibody in conjunction with enhanced chemiluminescence. These standards are suitable for use with monoclonal anti-Nitrotyrosine (Catalog # 05-233) following the protocol provided on the next page. The arrows indicate the Immunoblot Controls.



References:

1. Ye, Y.Z., *et al.*, *Meth Enzymol.* **269**: 201-209, 1996.
2. Beckman, J.S., *et al.*, *Biol. Chem. Hoppe-Seyler* **375**: 81-88, 1994.
3. Ohshima, H., *et al.*, *Ed. Chem. Tox.* **28**: 647-652, 1990.
4. Ischiropoulos, H., *et al.*, *Arch. Biochem. Biophys.* **298**: 431-437, 1992.
5. Beckman, J.S., *et al.*, *Nature* **364**: 584, 1993.
6. Kono, S., *et al.*, *Biochem Biophys. Res. Comm.* **190**: 283-288, 1993.

Immunoblot Protocol
(for use with polyclonal antibodies)

1. Perform SDS-polyacrylamide gel electrophoresis (SDS-PAGE) on **10 μ l of Nitrotyrosine Immunoblotting Control** diluted 1:1 with RSB and transfer the proteins to nitrocellulose. Wash the blotted nitrocellulose twice with water.
2. Wash the nitrocellulose in PBS-0.05% Tween-20 (PBS-T) for 10 minutes.
3. Wash the nitrocellulose twice with water.
4. Block the blotted nitrocellulose in freshly prepared PBS containing 3% nonfat dry milk (Catalog # 20-200), (PBS-MLK) for 20 minutes to 1 hour at room temperature with constant agitation.
5. Wash the nitrocellulose twice with water.
6. Incubate the nitrocellulose with 0.5-2 μ g/ml of rabbit polyclonal anti-Nitrotyrosine (Catalog # 06-284) diluted in freshly prepared PBS-MLK overnight with agitation at 4°C.
7. Wash the nitrocellulose five times with water.
8. Incubate the nitrocellulose in the secondary reagent of choice (a goat anti-rabbit HRP conjugated IgG, Catalog # 12-348, 1:2000 dilution was used) in PBS-MLK for 1.5 hours at room temperature with agitation.
9. Wash the nitrocellulose five times with water.
10. Wash the nitrocellulose in PBS-T for 2.5-5 minutes.
11. Wash the nitrocellulose five times with water.
12. Use detection method of choice: enhanced chemiluminescence is recommended.

Immunoblot Protocol
(for use with monoclonal antibodies)

1. Perform SDS-polyacrylamide gel electrophoresis (SDS-PAGE) on **10 μ l of Nitrotyrosine Immunoblotting Control** diluted 1:1 with RSB and transfer the proteins to nitrocellulose. Wash the blotted nitrocellulose twice with water.
2. Wash the nitrocellulose in TBS, pH 7.5 for 30 minutes.
3. Block the blotted nitrocellulose in TBS, pH 7.5, containing 1% casein (TBS-C), for 2 hours.
4. Wash the nitrocellulose twice with water.
5. Incubate the nitrocellulose with 0.5-2 μ g/ml of mouse monoclonal anti-Nitrotyrosine (Catalog # 05-233) diluted in TBS-C for 48 hours.
6. Wash the nitrocellulose for 30 minutes with 0.02% PBS-Tween 20 (PBS-T).
7. Wash the nitrocellulose twice with water.
8. Incubate the nitrocellulose in the secondary reagent of choice (a goat anti-mouse HRP conjugated IgG, Catalog # 12-349, 1:5000 dilution was used) in TBS-C for 90 minutes at room temperature with agitation.
9. Wash the nitrocellulose five times with water.
10. Wash the nitrocellulose in PBS-T for 2.5-5 minutes.
11. Wash the nitrocellulose five times with water.
12. Use detection method of choice: enhanced chemiluminescence is recommended.