

Protein Tyrosine Nitration Control (Nitrotyrosine-BSA)

CATALOG NUMBER: STA-304

STORAGE: -80°C

QUANTITY AND CONCENTRATION: 100 µL of 0.1 mg/mL Nitrotyrosine-BSA in TBS, pH 7.4

SHELF LIFE: 2 years from receipt under proper storage conditions; avoid multiple freeze thaw cycles

Background

Nitric oxide (NO) was initially identified as a muscle relaxation factor, mediating its effects on smooth muscle by coordinating the heme moiety of guanylate cyclase, leading to enhanced production of cGMP. Besides smooth muscle relaxation, NO also influences a variety of biological systems including cell proliferation, apoptosis, neurotoxicity, Parkinson disease, extracellular matrix remodeling. Many of its effects are mediated through protein nitrosylation.

Peroxynitrite (ONOO⁻) is formed in the chemical reaction between nitric oxide and superoxide. ONOO⁻ nitrates free tyrosine and tyrosine residues in proteins; modifications that are used as markers of ONOO⁻ action under conditions of cellular damage and in numerous diseases.

This control is manufactured by nitration of bovine serum albumin *in vitro* using peroxynitrite as the NO donor.

Methods

Dilute to 5 µg/mL with reducing SDS sample buffer and heat for 5 min in boiling water. Load 20 µL per lane for western blot analysis of protein tyrosine nitrosylation using Cell Biolabs' Nitrotyrosine Immunoblot Kit (STA-303) or anti-Nitrotyrosine antibody (STA-003 or STA-004).

Example of Results

The following figures demonstrate typical results. One should use the data below for reference only. This data should not be used to interpret actual results.

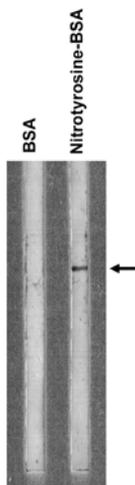


Figure 1: Immunoblotting of Nitrated BSA. Nitrotyrosine-BSA (Nitrotyrosine Immunoblot Control) was first electroblotted onto nitrocellulose membrane. Following the electroblotting procedure, the membrane was immunoblotting with anti-Nitrotyrosine antibody as described in the Assay Protocol (Cat.# STA-303).

References

1. Halliwell, B., Zhao, K., and Whiteman, M. (1999) *Free Radic. Res.* **31**, 651-669.
2. Greenacre, S. A. B., and Ischiropoulos, H. (2001) *Free Radic. Res.* **34**, 541-581.

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