

Monoclonal Antibody to Nitrotyrosine - Purified

Alternate names: NO-Tyrosine, Nitro-Tyrosine

Catalog No.: AM05341PU-N

Quantity: 0.1 mg

Concentration: Lot specific

Background: Protein tyrosine nitration results in a post-translational modification that is increasingly receiving attention as an important component of nitric oxide signaling. While multiple nonenzymatic mechanisms are known to be capable of producing nitrated tyrosine residues, most tyrosine nitration events involve catalysis by metalloproteins such as myeloperoxidase, eosinophilperoxidase, myoglobin, the cytochrome P-450s, superoxide dismutase and prostacyclin synthase. Various studies have shown that protein tyrosine nitration is limited to specific proteins and that the process is selective. For example, exposure of human surfactant protein A (SP-A) to oxygen-nitrogen intermediates generated by activated alveolar macrophages resulted in specific nitration of SP-A at tyrosines 164 and 166, while addition of 1.2 mM CO₂ resulted in additional nitration at tyrosine 161. The presence of nitrotyrosine-containing proteins has shown high correlation to disease states such as atherosclerosis, Alzheimer's disease, Parkinson's disease and amyotrophic lateral sclerosis. 55 kD 160 kD.

Host / Isotype: Mouse / IgG1

Clone: 2A12

Immunogen: 3-Nitrotyrosine-KLH

Format: **State:** Liquid purified Ig fraction.

Buffer System: 20 mM Sodium Phosphate, 150 mM Sodium Chloride, 50% Glycerol, 3mM Sodium Azide, pH 7.5

Applications: Western Blot: 1/1000.

Immunohistochemistry on Frozen Sections.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody detects 3-Nitrotyrosine.

Storage: The antibody can be shipped at 2-8°C.

Store (in aliquots) at -20°C only.

Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

General Readings: 1. Knight-Lozano CA, Young CG, Burow DL, Hu ZY, Uyeminami D, Pinkerton KE, et al. Cigarette smoke exposure and hypercholesterolemia increase mitochondrial damage in cardiovascular tissues. *Circulation*. 2002 Feb 19;105(7):849-54. PubMed PMID: 11854126.
2. Khan F, Siddiqui AA. Prevalence of anti-3-nitrotyrosine antibodies in the joint synovial

For research and in vitro use only. Not for diagnostic or therapeutic work.

Material Safety Datasheets are available at www.acris-antibodies.com or on request.

Antibody Hotline - Technical Questions - Antibody Location Service
Free Call: 0800-2274746 (Germany only) - www.acris-antibodies.com



fluid of patients with rheumatoid arthritis, osteoarthritis and systemic lupus erythematosus. Clin Chim Acta. 2006 Aug;370(1-2):100-7. Epub 2006 Mar 2. PubMed PMID: 16513103.

3. Deeb, R.S., et al. Tyrosine nitration in prostaglandin H2 synthase. J Lipid Res, 43, 1718 - 1726 (2002).

4. Blanchard-Fillion B, Prou D, Polydoro M, Spielberg D, Tsika E, Wang Z, et al. Metabolism of 3-nitrotyrosine induces apoptotic death in dopaminergic cells. J Neurosci. 2006 Jun 7;26(23):6124-30. PubMed PMID: 16763020.

Pictures:

Legend A. Western blot using 3-nitrotyrosine monoclonal antibody on 40 µg mouse brain lysate (Lane 1) and 40 µg rat brain lysate (Lane 2). Antibody used at a dilution of 1µg/ml, detected with Supersignal West Pico Substrate -30 second exposure. **Legend B.** Same experiment blocked with buffer containing 1 mM 3-nitrosine.

