3-Nitrotyrosine. Mouse Monoclonal Antibody 2A12 , Ubiquitous

Background

Protein tyrosine nitration results in a post-translational modification that is increasingly receiving attention as an important component of nitric oxidesignaling. 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 tyrosinenitration 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 mMCO 2 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

Ordering Information

Catalog Number
X1719M

Size
100 µg

Form
Unconjugated

Host/Clone
Mouse Clone 2A12

Formulation
20 mM sodium phosphate, 150 mM sodium chloride, 50% glycerol, 3mM sodium azide, pH 7.5

Concentration
1 mg/ml

Isotype
IgG1

Applications
Western Blot, Immunohistochemistry

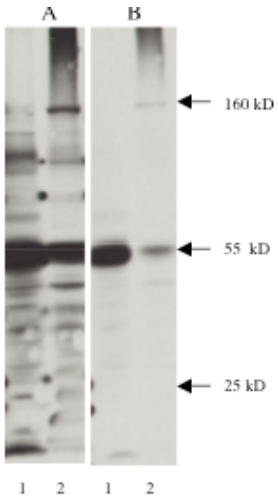
Immunogen

3-Nitrotyrosine-KLH

Species Reactivity

Ubiquitous

Legend:
A. Western blot using Exalpha's anti 3-nitrotyrosine monoclonal antibody (Cat # X1719M) on 40 µg mouse brair lysate (Lane 1) and 40 µg rat brair lysate (Lane 2). Antibody used at a dilution of 1µg/ml, detected with Supersignal West Pico Substrate -30 second exposure.
B. Same experiment blocked with buffer containing 1 mM 3-nitrosine.



For research use only. Not for use in human diagnostics or therapeutics.

POSITIVE CONTROL/TISSUE EXPRESSION

COMMENTS

Antibody can be used for Western blotting (Suggested dilution – 1:1000) and immunohistochemistry. Optimal concentration should be evaluated by serial dilutions.

SHIP CONDITIONS

Ship at ambient temperature, freeze upon arrival

STORAGE CUSTOMER

Product should be stored at -20ºC. Aliquot to avoid freeze/thaw cycles

STABILITY

Products are stable for one year from purchase when stored properly

REFERENCES

1. Knight-Lozano, C.A., et al. "Cigarette smoke exposure and hypercholesterolemia increase mitochondrial damage in cardiovascular tissues." Circulation, 105, 849–854 (2002).

2. Khan, F. & Siddiqui, A.A. "Prevalence of anti-3-nitrotyrosine antibodies in the joint synovial fluid of patients with rheumatoid arthritis, osteoarthritis and systemic lupus erythematosus." Clin Chim Acta, 370, 100–107 (2006).

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

4. Blanchard-Fillion, B., et al. "Metabolism of 3-nitrotyrosine induces apoptotic death in dopaminergic cells." J Neurosci, 26, 6124–6130 (2006).

LAST MODIFIED 11/8/2006