

# Product Information

**Monoclonal Anti-3-Nitrotyrosine****Clone 2A12**

produced in mouse, purified immunoglobulin

Catalog Number **N5663**

**Product Description**

Monoclonal Anti-3-Nitrotyrosine (mouse IgG1 isotype) is derived from the hybridoma 2A12 produced by immunizing mice with 3-nitrotyrosine-KLH.

Monoclonal Anti-3-Nitrotyrosine recognizes 3-nitrotyrosine in most species. The antibody may be used in immunoblotting (~55 kDa).

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, eosinophil peroxidase, 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 CO<sub>2</sub> resulted in additional nitration at Tyr<sup>161</sup>. 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.

**Reagent**

Supplied as a solution in 20 mM sodium phosphate, 150 mM sodium chloride, 50% glycerol, and 3 mM sodium azide, pH 7.5

Antibody concentration: ~1 mg/mL

**Precautions and Disclaimer**

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

**Storage/Stability**

Store at -20 °C. For extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

**Product Profile**

Immunoblotting: a working dilution of 1:1,000 is recommended using mouse and rat brain.

**Note:** In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

KAA,PHC 04/08-1

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications.

Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply.

Please see reverse side of the invoice or packing slip.