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Anti-Nitrotyrosine Antibody [39B6]

Mouse Anti- Nitrotyrosine Monoclonal IgG2a
Catalog No. SMC-154



Discovery through partnership | Excellence through quality

Overview

Product Name

Nitrotyrosine Antibody

Description

Mouse Anti- Nitrotyrosine Monoclonal IgG2a

Species Reactivity

Species Independent

Applications

WB, IHC, ICC/IF, IP, ELISA, FCM, AM

Antibody Dilution

WB (1:1400), IHC (1:100); optimal dilutions for assays should be determined by the user.

Host Species

Mouse

Immunogen

Hybridoma line 39B6

Concentration

1 mg/ml

Conjugates

Alkaline Phosphatase, APC, ATTO 390, ATTO 488, ATTO 565, ATTO 594, ATTO 633, ATTO 655, ATTO 680, ATTO 700, Biotin, FITC, HRP, PE/ATTO 594, PerCP, RPE, Streptavidin, Unconjugated

Properties

Storage Buffer

PBS, 50% glycerol, 0.09% sodium azide

Storage Temperature

-20°C

Shipping Temperature

Blue Ice or 4°C

Purification

Protein G Purified

Clonality

Monoclonal

Clone Number

39B6

Isotype

IgG2a

Specificity

Recognizes 3-nitrotyrosine moieties. No detectable cross-reactivity with non-nitrated tyrosine. Not species specific.

Cite This Product

Mouse Anti- Nitrotyrosine Monoclonal, Clone 39B6 (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SMC-154)

Certificate Of Analysis

0.7 µg/ml of SMC-154 was sufficient for detection of 5 µg SIN-1 treated BSA by Western Blot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Biological Description

Alternative Names

Nitro tyrosine Antibody, 3-Nitrotyrosine Antibody

Research Areas

Cancer, Alzheimer's Disease, Cell Signaling, Neurodegeneration, Neuroscience, Nitration, Oxidative Stress, Parkinson's Disease, Post-translational Modifications

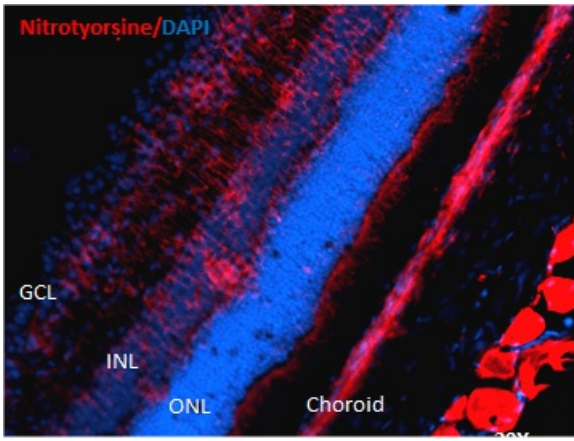
Scientific Background

Protein tyrosine nitration results in a post-translational modification that is increasingly receiving attention as an important component of nitric oxide signaling (2). 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 (3), myoglobin, the cytochrome P-450s, superoxide dismutase and prostacyclin synthase. Nitrotyrosine may also serve as a biomarker for the effects of reactive nitrogen oxides, based on tyrosine residues becoming nitrated in proteins at sites of inflammation induced tissue injury (1). The presence of nitro tyrosine-containing proteins therefore has shown high correlation to disease states such as atherosclerosis, Alzheimers disease, Parkinsons disease and amyotrophic lateral sclerosis (4).

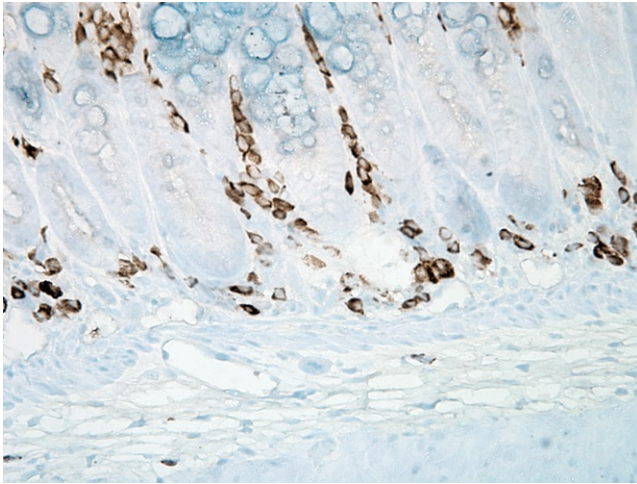
References

1. Girault I. et al. (2001). Free Radical Biology and Medicine, 31 (11): 1375-1387.
 2. Gow AJ, Farkouh CR, Munson DA, Posencheq MA, and Ischiropoulos H. (2004). Am J Physiol Lung Cell Mol Physiol. 287(2): L262-8.
 3. Takemoto K. et al (2007). Acta Med Okayama 61(1): 17-30.
 4. Reynolds MR. et al. (2006) J Nerosci. 26(42): 10636-45.
 5. Pfister H., et al. (2002) Vet Pathol. 39: 190-199.
 6. Khan J. et al. (1998) Biochem J. 330(2): 795-801.
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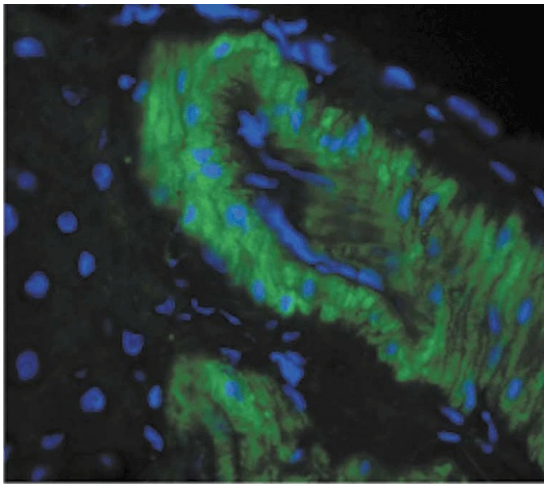
Product Images



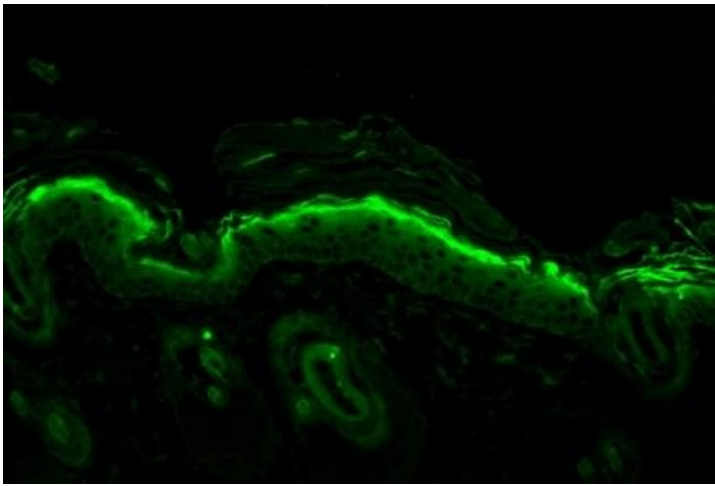
Immunohistochemistry analysis using Mouse Anti-Nitrotyrosine Monoclonal Antibody, Clone 39B6 (SMC-154). Tissue: Retinal Injury Model. Species: Mouse. Primary Antibody: Mouse Anti-Nitrotyrosine Monoclonal Antibody (SMC-154) at 1:1000. Secondary Antibody: Alexa Fluor 594 Goat Anti-Mouse (red). Courtesy of: Dr. Rajashekhar Gangaraju, University of Indiana, Department of Ophthalmology, Eugene and Marilyn Glick Eye Institute.



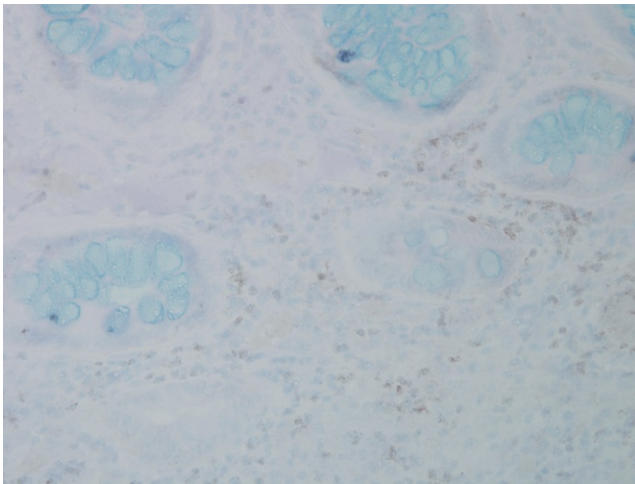
Immunohistochemistry analysis using Mouse Anti-Nitrotyrosine Monoclonal Antibody, Clone 39B6 (SMC-154). Tissue: inflamed colon. Species: Mouse. Fixation: Formalin. Primary Antibody: Mouse Anti-Nitrotyrosine Monoclonal Antibody (SMC-154) at 1:1000000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Mouse at 1:2000 for 1 hour at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 200 μ l for 2 minutes at RT. Magnification: 40x.



Immunohistochemistry analysis using Mouse Anti-Nitrotyrosine Monoclonal Antibody, Clone 39B6 (SMC-154). Tissue: liver tissue. Species: Rat. Primary Antibody: Mouse Anti-Nitrotyrosine Monoclonal Antibody (SMC-154) at 1:1000. Secondary Antibody: FITC Goat Anti-Mouse (green).



Immunohistochemistry analysis using Mouse Anti-Nitrotyrosine Monoclonal Antibody, Clone 39B6 (SMC-154). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-Nitrotyrosine Monoclonal Antibody (SMC-154) at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT.



Immunohistochemistry analysis using Mouse Anti-Nitrotyrosine Monoclonal Antibody, Clone 39B6 (SMC-154). Tissue: colon carcinoma. Species: Human. Fixation: Formalin. Primary Antibody: Mouse Anti-Nitrotyrosine Monoclonal Antibody (SMC-154) at 1:25000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Mouse at 1:2000 for 1 hour at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 200 µl for 2 minutes at RT. Magnification: 40x.

Product Citations (10)

Immunohistochemistry

Nuclear-translocated Glyceraldehyde-3-phosphate Dehydrogenase Promotes Poly (ADP-ribose) Polymerase-1 Activation during Oxidative/Nitrosative Stress in Stroke.

Nakajima, H. et al. (2015) J Biol Chem. 290(23):14493-503.

PubMed ID: 25882840 **Reactivity:** Rat **Applications:** Immunohistochemistry

Improved angiogenesis and healing in crush syndrome by FGF-2+F/P NPs.

Takikawa, M. et al. (2015) J Surg Res. 196(2):247-57.

PubMed ID: 25864985 **Reactivity:** Rat **Applications:** Immunohistochemistry

Dipeptidyl peptidase-4 deficiency protects against experimental diabetic nephropathy partly by blocking the advanced glycation end products-receptor axis.

Matsui, T. et al. (2015) Lab Invest. 95(5):525-33.

PubMed ID: 25730373 **Reactivity:** Rat **Applications:** Immunohistochemistry

Improved survival rate by temperature control at compression sites in rat model of crush syndrome.

Nakayama, T. et al. (2014) J Surg Res. 188(1):250-9.

PubMed ID: 24679269 **Reactivity:** Rat **Applications:** Immunohistochemistry

SIRT3 Is a Mitochondria-Localized Tumor Suppressor Required for Maintenance of Mitochondrial Integrity and Metabolism during Stress.

Kim. H. et al. (2010) Cancer Cell. 17 (1): 41-52.

PubMed ID: 20129246 **Reactivity:** Mouse **Applications:** Immunohistochemistry

Flow Cytometry

Adipose tissue macrophages in non-rodent mammals: a comparative study.

Ampem, G. et al. (2015) Cell Tissue Res. [Epub ahead of print].

PubMed ID: 26239911 **Reactivity:** Cattle, goat, sheep, cat, dog, horse **Applications:** Flow Cytometry

Inducible nitric oxide synthase mediates MG132 lethality in leukemic cells through mitochondrial depolarization.

Chao, T.H., Chang, M.Y., Su S.J., Su, S.H. (2014) Free Radic Biol Med. 74:175-87.

PubMed ID: 24909615 **Reactivity:** Human **Applications:** Flow Cytometry

Immunocytochemistry/Immunofluorescence

Inducible nitric oxide synthase mediates MG132 lethality in leukemic cells through mitochondrial depolarization.

Chao, T.H., Chang, M.Y., Su S.J., Su, S.H. (2014) Free Radic Biol Med. 74:175-87.

PubMed ID: 24909615 **Reactivity:** Human **Applications:** Immunocytochemistry/Immunofluorescence

Aberrant production of extracellular matrix proteins and dysfunction in kidney endothelial cells with a short duration of diabetes.

Grutzmacher, C. et al. (2012) AJP Renal Physiol. 304 (1): F19-F30.

PubMed ID: 23077100 **Reactivity:** Mouse **Applications:** Immunocytochemistry/Immunofluorescence

Other Citations

Peptide Microarrays for Real-Time Kinetic Profiling of Tyrosine Phosphatase Activity of Recombinant Phosphatases and Phosphatases in Lysates of Cells or Tissue Samples.

Hovestad-Bijl, L (2016) Methods Mol Biol. 1447:67-78.

PubMed ID: 27514800 **Reactivity:** Mamalian **Applications:** Antibody Microarray

Reviews

Based on validation through cited publications.



StressMarq Biosciences

June 14, 2016: