Anti-Nitrotyrosine

Catalog# SMC-154 C/D

Size: 25/100µg

This product is for *in vitro* research use only and is not intended for use in humans or animals

Product	**Mouse Anti-Nitrotyrosine Monoclonal Antibody**
Clone	**Hybridoma line 39B6**
Immunogen	**3-(4-Hydroxy-3-nitrophenyl acetamido) propionic acid-BSA conjugate.**
Host and Subclass	**Mouse, IgG_{2a}**
Cited Applications	**WB (1), ELISA (1, 6), IHC (1,5), IP, IF**
Specificity	**Recognizes 3-nitrotyrosine moieties. No detectable cross-reactivity with non-nitrated tyrosine. Not species specific.**
Species cross-reactivity	**Human, Mouse, Rat, Dog**
Format	**In PBS containing 0.09% sodium azide in 50% glycerol. Protein G purified.**
Concentration and working dilution	**1.0mg/mL; 0.7µg/ml was sufficient for detection of 5µg SIN-1 treated BSA by Western Blot**
Storage and stability	**-20°C; 1 year+; shipped on cold packs or ambient**

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, eosino-philperoxidase (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, Alzheimer's disease, Parkinson's disease and amyotrophic lateral sclerosis (4).

Selected 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.

Certificate of Analysis

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

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