

Nitrotyrosine (11C2): sc-101358

BACKGROUND

Nitrotyrosine is a marker for inflammation and nitric oxide (NO) production and is formed in the presence of the active metabolite NO. Because Nitrotyrosine is a stable product of multiple pathways, such as the formation of peroxy-nitrite, its plasma concentration may be a useful determinant of NO-dependent damage *in vivo*. Nitrotyrosine has been detected in inflammatory processes such as septic shock, rheumatoid arthritis, celiac disease, atherosclerotic plaques and chronic renal failure.

REFERENCES

1. ter Steege, J., et al. 1997. Presence of inducible nitric oxide synthase, Nitrotyrosine, CD68, and CD14 in the small intestine in celiac disease. *Lab. Invest.* 77: 29-36.
2. Bruijn, L.I., et al. 1997. Elevated free Nitrotyrosine levels, but not protein-bound Nitrotyrosine or hydroxyl radicals, throughout amyotrophic lateral sclerosis (ALS)-like disease implicate tyrosine nitration as an aberrant *in vivo* property of one familial ALS-linked superoxide dismutase 1 mutant. *Proc. Natl. Acad. Sci. USA* 94: 7606-7611.
3. ter Steege, J.C., et al. 1998. Nitrotyrosine in plasma of celiac disease patients as detected by a new sandwich ELISA. *Free Radic. Biol. Med.* 25: 953-963.
4. Viera, L., et al. 1999. Immunohistochemical methods to detect Nitrotyrosine. *Methods Enzymol.* 301: 373-381.
5. Xu, J., et al. 2001. iNOS and Nitrotyrosine expression after spinal cord injury. *J. Neurotrauma* 18: 523-532.
6. Girault, I., et al. 2001. Immunodetection of 3-Nitrotyrosine in the liver of zymosan-treated rats with a new monoclonal antibody: comparison to analysis by HPLC. *Free Radic. Biol. Med.* 31: 1375-1387.
7. Ogino, K., et al. 2002. Immunohistochemical artifact for Nitrotyrosine in eosinophils or eosinophil containing tissue. *Free Radic. Res.* 36: 1163-1170.
8. Rhyu, D.Y., et al. 2002. Prevention of peroxy-nitrite-induced renal injury through modulation of peroxy-nitrite production by the Chinese prescription Wen-Pi-Tang. *Free Radic. Res.* 36: 1261-1269.
9. Lorch, S.A., et al. 2003. Plasma 3-Nitrotyrosine and outcome in neonates with severe bronchopulmonary dysplasia after inhaled nitric oxide. *Free Radic. Biol. Med.* 34: 1146-1152.

SOURCE

Nitrotyrosine (11C2) is a mouse monoclonal antibody raised against Nitrotyrosine.

PRODUCT

Each vial contains 500 μ l culture supernatant containing IgG₁ with < 0.1% sodium azide.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

Nitrotyrosine (11C2) is recommended for detection of free and bound Nitrotyrosine by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200) and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:10-1:200); non cross-reactive with free or bound Tyrosine.

SELECT PRODUCT CITATIONS

1. Peng, A., et al. 2011. The green tea polyphenol (-)-epigallocatechin-3-gallate ameliorates experimental immune-mediated glomerulonephritis. *Kidney Int.* 80: 601-611.
2. Hao, Y., et al. 2013. Pyocyanin-induced mucin production is associated with redox modification of FOXA2. *Respir. Res.* 14: 82.
3. Pandey, V.K., et al. 2014. G1-4A, a polysaccharide from *Tinospora cordifolia* induces peroxy-nitrite dependent killer dendritic cell (KDC) activity against tumor cells. *Int. Immunopharmacol.* 23: 480-488.
4. Jaadane, I., et al. 2015. Retinal damage induced by commercial light emitting diodes (LEDs). *Free Radic. Biol. Med.* 84: 373-384.
5. Ganai, A.A. and Husain, M. 2017. Genistein attenuates D-GalN induced liver fibrosis/chronic liver damage in rats by blocking the TGF- β /Smad signaling pathways. *Chem. Biol. Interact.* 261: 80-85.
6. Zhang, Q.M., et al. 2018. Expression of lung surfactant proteins SP-B and SP-C and their regulatory factors in fetal lung of GDM rats. *Curr. Med. Sci.* 38: 847-852.
7. Bribiesca-Cruz, I., et al. 2021. Maqui berry (*Aristotelia chilensis*) extract improves memory and decreases oxidative stress in male rat brain exposed to ozone. *Nutr. Neurosci.* 24: 477-489.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



See **Nitrotyrosine (39B6): sc-32757** for Nitrotyrosine antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.