SANTA CRUZ BIOTECHNOLOGY, INC.

Nitrotyrosine (6D611): sc-71705

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 peroxynitrite, 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 peroxynitrite-induced renal injury through modulation of peroxynitrite 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 (6D611) is a mouse monoclonal antibody raised against 3-Nitrotyrosine.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Nitrotyrosine (6D611) is recommended for detection of nitrosylated tyrosine containing proteins by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

SELECT PRODUCT CITATIONS

1. Wang, P., et al. 2017. Minocycline attenuates streptomycin-induced cochlear hair cell death by inhibiting protein nitration and poly (ADP-ribose) polymerase activation. Neurosci. Lett. 656: 83-88.
2. Wang, D., et al. 2019. Cinnamaldehyde ameliorates high-glucose-induced oxidative stress and cardiomyocyte injury through transient receptor potential ankyrin 1. J. Cardiovasc. Pharmacol. 74: 30-37.
3. Aguilar, E.C., et al. 2020. Gluten exacerbates atherosclerotic plaque formation in $ApoE^{-/-}$ mice with diet-induced obesity. Nutrition 75-76: 110658.

RESEARCH USE

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

PROTOCOLS

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

CONJUGATES

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