

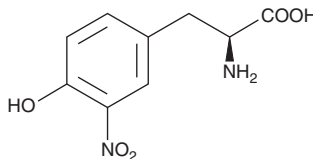
PRODUCT INFORMATION



Nitrotyrosine

Item No. 89540

CAS Registry No.: 621-44-3
Formal Name: 3-nitro-L-tyrosine
Synonym: NT
MF: $C_9H_{10}N_2O_5$
FW: 226.2
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 217, 274, 355 nm
Supplied as: A crystalline solid
Storage: Room temperature
Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Nitrotyrosine is supplied as a crystalline solid. Nitrotyrosine is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of nitrotyrosine be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of nitrotyrosine in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Nitrotyrosine is formed by peroxynitrite-mediated nitration of protein tyrosine residues. Its presence on proteins can be used as a marker for peroxynitrite formation *in vivo*.¹⁻⁴ Both free and protein-bound nitrotyrosine are commonly found in mammalian tissues and are increased in pathological conditions.^{2,5,6} The basal levels of free nitrotyrosine in human plasma is approximately 3 nM as determined by gas chromatography/mass spectrometry.^{7,8}

References

1. Beckman, J.S. and Koppenol, W.H. Nitric oxide, superoxide, and peroxynitrite: The good, the bad, and the ugly. *Am. J. Physiol.* **271**, C1424-C1437 (1996).
2. Beckman, J.S., Ye, Y.Z., Anderson, P.G., *et al.* Extensive nitration of protein tyrosines in human atherosclerosis detected by immunohistochemistry. *Biol. Chem. Hoppe-Seyler* **375**, 81-88 (1994).
3. Abe, K., Pan, L.-H., Watanabe, M., *et al.* Upregulation of protein-tyrosine nitration in the anterior horn cells of amyotrophic lateral sclerosis. *Neurol. Res.* **19**, 124-128 (1997).
4. Ferrante, R.J., Shinobu, L.A., Schulz, J.B., *et al.* Increased 3-nitrotyrosine and oxidative damage in mice with a human copper/zinc superoxide dismutase mutation. *Ann. Neurol.* **42**, 326-334 (1997).
5. Haddad, I.Y., Pataki, G., Hu, P., *et al.* Quantitation of nitrotyrosine levels in lung sections of patients and animals with acute lung injury. *J. Clin. Invest.* **94**, 2407-2413 (1994).
6. Ohya, M., Marukawa, S., Inoue, T., *et al.* Plasma nitrotyrosine concentration relates to prognosis in human septic shock. *Shock* **18**(2), 116-118 (2002).
7. Tsikas, D., Schwedhelm, E., Stutzer, F.K., *et al.* Accurate quantification of basal plasma levels of 3-nitrotyrosine and 3-nitrotyrosinoalbumin by gas chromatography-tandem mass spectrometry. *Journal of Chromatography B* **784**, 77-90 (2003).
8. Schwedhelm, E., Tsikas, D., Gutzki, F.-M., *et al.* Gas chromatographic-tandem mass spectrometric quantification of free 3-nitrotyrosine in human plasma at the basal state. *Anal. Biochem.* **276**, 195-203 (1999).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/09/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM