

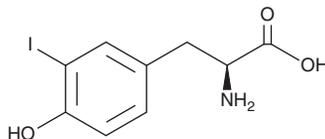
PRODUCT INFORMATION



3-Iodotyrosine

Item No. 27798

CAS Registry No.: 70-78-0
Formal Name: 3-iodo-L-tyrosine
Synonyms: 3-iodo-4-Hydroxyphenylalanine, Monoiodotyrosine, NSC 210787
MF: C₉H₁₀INO₃
FW: 307.1
Purity: ≥95%
UV/Vis.: λ_{max}: 283 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

3-Iodotyrosine is supplied as a crystalline solid. Aqueous solutions of 3-iodotyrosine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 3-iodotyrosine in PBS, pH 7.2, is approximately 0.15 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

3-Iodotyrosine is an inhibitor of tyrosine hydroxylase ($K_i = 0.39 \mu\text{M}$) and an intermediate in the synthesis of thyroid hormones.^{1,2} It has been incorporated into proteins as a non-natural amino acid for use as a label to detect protein-protein interactions.³ 3-Iodotyrosine induces the formation of α -synuclein aggregates and tyrosine hydroxylase-positive inclusions in primary substantia nigra neurons when used at concentrations of 5 and 10 nM.⁴ It induces parkinsonism in mice, reducing locomotor activity and inducing bradykinesia in the open field test when administered at an intrastriatal dose of 10 μM .

References

1. Scott-Moncrieff, J.C. Hypothyroidism, *Canine and feline endocrinology*. 4th edition, Elsevier Saunders, 78-135 (2015).
2. Udenfriend, S., Zaltzman-Nirenberg, P., and Nagatsu, T. Inhibitors of purified beef adrenal tyrosine hydroxylase. *Biochem. Pharmacol.* **14**(4), 837-845 (1965).
3. Hino, N., Hayashi, A., Sakamoto, K., et al. Site-specific incorporation of non-natural amino acids into proteins in mammalian cells with an expanded genetic code. *Nat. Protoc.* **1**(6), 2957-2962 (2006).
4. Fernández-Espejo, E. and Bis-Humbert, C. Excess amounts of 3-iodo-L-tyrosine induce Parkinson-like features in experimental approaches of Parkinsonism. *Neurotoxicology* **67**, 178-189 (2018).

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.

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