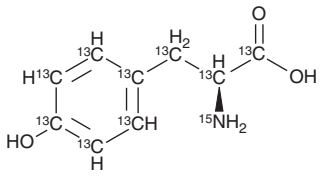
PRODUCT INFORMATION

L-Tyrosine-$^{13}C_9$,^{15}N

Item No. 31256

CAS Registry No.:	202407-26-9
Formal Name:	L-tyrosine-1,2,3,4,5,6-$^{13}C_9$-^{15}N
Synonyms:	L-4-Hydroxyphenylalanine, *p*-Hydroxyphenylalanine, (–)-Tyrosine, *p*-Tyrosine
MF:	$[^{13}C]_9H_{11}[^{15}N]O_3$
FW:	191.1
Purity:	≥98%
UV/Vis.:	λ_{max}: 223 nm
Supplied as:	A 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

L-Tyrosine-$^{13}C_9$,^{15}N is supplied as a solid. A stock solution may be made by dissolving the L-tyrosine-$^{13}C_9$,^{15}N in the solvent of choice, which should be purged with an inert gas. L-Tyrosine-$^{13}C_9$,^{15}N is slightly soluble in methanol and DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of L-tyrosine-$^{13}C_9$,^{15}N can be prepared by directly dissolving the L-tyrosine-$^{13}C_9$,^{15}N in aqueous buffers. L-Tyrosine-$^{13}C_9$,^{15}N is slightly soluble in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

L-Tyrosine-$^{13}C_9$,^{15}N is intended for use as an internal standard for the quantification of L-tyrosine by GC- or LC-MS. L-Tyrosine is a conditionally essential amino acid.[1] It is produced by hydroxylation of phenylalanine by phenylalanine hydroxylase but can also be obtained from dietary sources or degradation of endogenous proteins, resulting in L-tyrosine release.[1,2] L-Tyrosine is a precursor in the biosynthesis of catecholamine neurotransmitters, melanins, and thyroid hormones.[3] Plasma, skeletal muscle, and erythrocyte levels of L-tyrosine are decreased in patients with chronic kidney disease.[1]

References

1. Kopple, J.D. Phenylalanine and tyrosine metabolism in chronic kidney failure. *J. Nutr.* **137(6 Suppl 1)**, 1586S-1590S (2007).
2. Webster, D. and Wildgoose, J. Tyrosine supplementation for phenylketonuria. *Cochrane DB Syst. Rev.* **6**, CD001507 (2013).
3. Slominski, A. and Paus, R. Towards defining receptors for L-tyrosine and L-DOPA. *Mol. Cell Endocrinol.* **99(2)**, C7-C11 (1994).

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