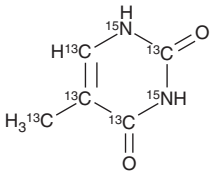
PRODUCT INFORMATION

Thymine-$^{13}C_5$,$^{15}N_2$

Item No. 41172

CAS Registry No.:	2483830-13-1
Formal Name:	5-(methyl-^{13}C)-2,4(1H,3H)-pyrimidinedione-2,4,5,6-$^{13}C_4$-1,3-$^{15}N_2$
Synonym:	5-Methyluracil-$^{13}C_5$,$^{15}N_2$
MF:	$[^{13}C]_5H_6[^{15}N]_2O_2$
FW:	133.1
Purity:	≥98%
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

Thymine-$^{13}C_5$,$^{15}N_2$is intended for use as an internal standard for the quantification of thymine (Item No. 38749) by GC- or LC-MS. Thymine-$^{13}C_5$,$^{15}N_2$ is supplied as a solid. A stock solution may be made by dissolving the thymine-$^{13}C_5$,$^{15}N_2$ in the solvent of choice, which should be purged with an inert gas. Thymine-$^{13}C_5$,$^{15}N_2$ is sparingly soluble (1-10 mg/ml) in DMSO and slightly soluble (0.1-1 mg/ml) in acetonitrile.

Description

Thymine is a pyrimidine base.[1] It forms complementary base pairs with the purine adenine (Item No. 18148) in DNA.[1] Thymine is produced by the catabolism of thymidine (Item No. 20519) *via* thymidine phosphorylase.[2] It is replaced with uracil (Item No. 26088) in RNA.[3]

References

1. Ghannam, J.Y., Wang, J., and Jan, A. Biochemistry, DNA Structure. 1-5 (2021).
2. Brown, N.S. and Bicknell, R. Thymidine phosphorylase, 2-deoxy-D-ribose and angiogenesis. *Biochem. J.* **334(Pt 1)**, 1-8 (1998).
3. Banoub, J.H., Newton, R.P., Esmans, E., *et al.* Recent developments in mass spectrometry for the characterization of nucleosides, nucleotides, oligonucleotides, and nucleic acids. *Chem. Rev.* **105(5),** 1869-1915 (2005).

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