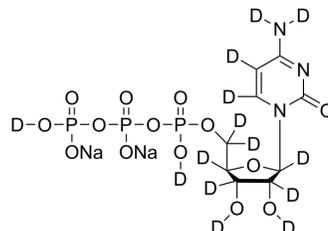


## Cytidine-5'-triphosphate-d<sub>14</sub> disodium

<b>Cat. No.:</b>	HY-125818S1
<b>Molecular Formula:</b>	C <sub>9</sub> D <sub>14</sub> N <sub>3</sub> Na <sub>2</sub> O <sub>14</sub> P <sub>3</sub>
<b>Molecular Weight:</b>	541.21
<b>Target:</b>	Nucleoside Antimetabolite/Analog; DNA/RNA Synthesis; Endogenous Metabolite
<b>Pathway:</b>	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease
<b>Storage:</b>	Solution, -20°C, protect from light, 2 years



### BIOLOGICAL ACTIVITY

<b>Description</b>	Cytidine-5'-triphosphate-d <sub>14</sub> (disodium) is the deuterium labeled Cytidine-5'-triphosphate[1]. Cytidine 5'-triphosphate (Cytidine triphosphate;5'-CTP) is a nucleoside triphosphate and serves as a building block for nucleotides and nucleic acids, lipid biosynthesis. Cytidine triphosphate synthase can catalyze the formation of cytidine 5'-triphosphate from uridine 5'-triphosphate (UTP). Cytidine 5'-triphosphate is an essential biomolecule in the de novo pyrimidine biosynthetic pathway in <i>T. gondii</i> [2].
<b>In Vitro</b>	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.
- [2]. Heidy Y Narvaez-Ortiz, et al. A CTP Synthase Undergoing Stage-Specific Spatial Expression Is Essential for the Survival of the Intracellular Parasite *Toxoplasma gondii*. *Front Cell Infect Microbiol*. 2018 Mar 22;8:83.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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