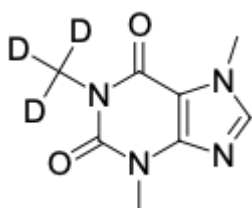


Caffeine-d3

<http://www.lumiprobe.com/p/caffeine-d3>

Caffeine-d3 is deuterated caffeine and intended for use as an internal standard for the quantification of caffeine by GC- or LC-MS.

Caffeine is a naturally occurring central nervous system stimulant belonging to the methylxanthine class and is widely recognized as the most utilized psychoactive stimulant worldwide. Caffeine's primary mechanism of action involves its effects on adenosine receptors in the brain. Being both fat- and water-soluble component, caffeine easily crosses the blood-brain barrier and antagonizes all 4 adenosine receptor subtypes (A1, A2a, A2b, and A3). The antagonism of the A2a receptor is particularly responsible for caffeine's wakefulness effects. Caffeine increases renal blood flow, glomerular filtration, and sodium excretion, resulting in diuresis. Additionally, caffeine is a potent stimulator of gastric acid secretion and gastrointestinal motility.



Structure of Caffeine-d3

General properties

Appearance: white powder

Molecular weight: 197.21

CAS number: 26351-03-1

Molecular formula: C₈H₇D₃N₄O₂

Solubility: water, DMSO, DMF, ethanol

Quality control: NMR ¹H and HPLC-MS (95+ %, D: 98+ %)

Storage conditions: 24 months after receipt at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Desiccate.

Legal statement: This Product is offered and sold for research purposes only. It has not been tested for safety and efficacy in food, drug, medical device, cosmetic, commercial or any other use. Supply does not express or imply authorization to use for any other purpose, including, without limitation, in vitro diagnostic purposes, in the manufacture of food or pharmaceutical products, in medical devices or in cosmetic products.