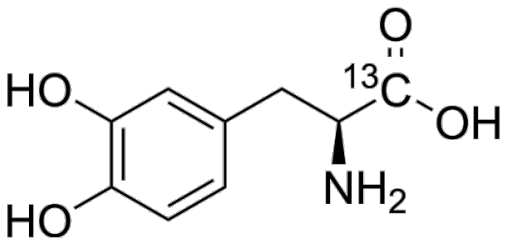
Product Data Sheet

Product Name: L-DOPA-13C
Cat. No.: GC74238

Chemical Properties

Cas. No.	586971-29-1		
Formula	$C_8{}^{13}CH_{11}NO_4$	M.Wt	198.18
Solubility	0.1 M HCL : 20 mg/mL (100.92 mM; ultrasonic and warming and adjust pH to pH to 2 with HCl)	Storage	4°C, stored under nitrogen
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		

Structure



Background

Product Data Sheet

L-DOPA-13C is the 13C labeled L-DOPA[1]. L-DOPA (Levodopa) is an orally active metabolic precursor of neurotransmitters dopamine. L-DOPA can cross the blood-brain barrier and is converted into dopamine in the brain. L-DOPA has anti-allodynic effects and the potential for Parkinson's disease[2][3][4].

Stable heavy isotopes of drogen, 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[1].

References:
[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019 Feb;53(2):211-216.
[2]. land K, et al. Aromatic L-amino acid decarboxylase deficiency: diagnostic methodology. Clin Chem. 1992 Dec;38(12):2405-10.
[3]. Merims D, et al. Dopamine dysregulation syndrome, addiction and behavioral changes in Parkinson's disease. Parkinsonism Relat Disord. 200814(4):273-80. Epub 2007 Nov 7.
[4]. Perez-Pardo P, et al. Additive Effects of Levodopa and a Neurorestorative Diet in a Mouse Model of Parkinson's Disease. Front Aging Neurosci. 2018 Aug 310:237.
[5]. Park HJ, et al. Anti-allodynic effects of levodopa in neuropathic rats. Yonsei Med J. 2013 Mar 154(2):330-5.

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