Dantrolene-¹³C₃

Cat. No.:	HY-12542S	
CAS No.:	1185234-99-4	
Molecular Formula:	$C_{11}^{13}C_{3}H_{10}N_{4}O_{5}$	
Molecular Weight:	317.23	
Target:	Isotope-Labeled Compounds; Glutathione Reductase	HŅ ^{ISC} ¹³ C2 N-N
Pathway:	Others; Metabolic Enzyme/Protease	$O^{>-13}C$ H ₂
Storage:	Please store the product under the recommended conditions in the Certificate of	
	Analysis.	

BIOLOGICAL ACTIV	
Description	Dantrolene- ¹³ C ₃ is the ¹³ C ₃ labeled Dantrolene. Dantrolene (F368), a muscle relaxant, non-competitively inhibits human erythrocyte glutathione reductase. Ki and IC50 values are 111.6 μM and 52.3 μM, respectively. Dantrolene is a ryanodine receptor antagonist and Ca2+ signaling stabilizer. Dantrolene can be used for the research of muscle spasticity, malignant hyperthermia, Huntington's disease and other neuroleptic malignant syndrome.
In Vitro	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 ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

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[3]. Shigeki Kobayashi, et al. Dantrolene, a therapeutic agent for malignant hyperthermia, markedly improves the function of failing cardiomyocytes by stabilizing interdomain interactions within the ryanodine receptor. J Am Coll Cardiol. 2009 May 26;53(21):1993-2005.

[4]. W J Meyler, et al. The effect of dantrolene sodium on rat skeletal muscle in relation to the plasma concentration. Eur J Pharmacol. 1979 Feb 1;53(4):335-42.

[5]. Xi Chen, et al. Dantrolene is neuroprotective in Huntington's disease transgenic mouse model. Mol Neurodegener. 2011 Nov 25;6:81.

[6]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019 Feb;53(2):211-216.

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

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