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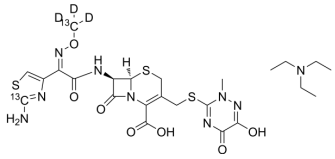
Ceftriaxone-$^{13}C_2$,d_3 triethylammonium salt

Cat. No.:	HY-B0712S1
Molecular Formula:	$C_{22}{}^{13}C_2H_{30}D_3N_9O_7S_3$
Molecular Weight:	660.77
Target:	Antibiotic; Aurora Kinase; GSK-3; Bacterial; Isotope-Labeled Compounds
Pathway:	Anti-infection; Cell Cycle/DNA Damage; Epigenetics; PI3K/Akt/mTOR; Stem Cell/Wnt; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Ceftriaxone-$^{13}C_2$,d_3 triethylammonium salt is ^{13}C and deuterated labeled Ceftriaxone (HY-B0712). Ceftriaxone (Ro 13-9904 free acid) is a broad spectrum β-lactam third-generation cephalosporin antibiotic, which has good antibacterial activity against a variety of gram-negative and positive bacteria. Ceftriaxone is a covalent inhibitor of GSK3β with IC_{50} value of 0.78 mM. Ceftriaxone is an inhibitor of Aurora B. Ceftriaxone has anti-inflammatory, antitumor and antioxidant activities. Ceftriaxone can be used in the study of bacterial infections and meningitis[1][2][3][4][5][6][7].
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]. Ceftriaxone (100 μM, 24 h) protects MPP^+ treated astrocytes by inhibiting the NF-κB/JNK/c-Jun signaling pathway [4]. Ceftriaxone (500 μM, 24-48 h) effectively inhibits unanchored cell growth in A549, H520 and H1650 lung cancer cells by inhibiting Aurora B[5]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Ceftriaxone (200 mg/kg Intraperitoneal injection for 6 weeks) improves functional markers and oxidative stress and inflammation parameters in a rat model of D-galactose (DGL) -induced liver and kidney injury[6]. Ceftriaxone (200, 400 mg/kg, Intraperitoneal injection) has a protective effect on convulsion induced by Pentylenetetrazol (PTZ) and PTZ-related oxidative damage in rats[7]. Ceftriaxone (100, 200 mg/kg, Intraperitoneal injection) reduces mechanical dysodynia and hyperalgesia by activating GLT-1 in Streptozocin (HY-13753)-induced diabetic rat models[8]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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