Product Data Sheet

Product Name: Fingolimod-d4 hydrochloride
Cat. No.: GC68424

Chemical Properties

Cas. No.	1346604-90-7		
Formula	$C_{19}H_{30}D_4ClNO_2$	M.Wt	347.96
Solubility		Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	Fingolimod-d4 hydrochloride		

Background

Fingolimod-d4 hydrochloride (FTY720-d4) is the deuterium labeled Fingolimod hydrochloride. Fingolimod hydrochloride (FTY720) is a **sphingosine 1-phosphate** (**S1P**) antagonist with an **IC_{50}** of 0.033 nM in K562 and NK cells. Fingolimod hydrochloride (FTY720) also is a **pak1** activator, a immunosuppressant[1].

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].

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.
[2]. Rolin J, et al. FTY720 and SEW2871 reverse the inhibitory effect of S1P on natural killer cell mediated lysis of K562 tumor cells and dendritic cells but not on cytokine release. Cancer Immunol Immunother. 2010, 59(4), 575-586.
[3]. Szepanowski F, et al. Fingolimod promotes peripheral nerve regeneration via modulation of lysophospholipid signaling. J Neuroinflammation. 2016 Jun 10;13(1):143.
[4]. Airas L, et al. In vivo PET imaging demonstrates diminished microglial activation

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after fingolimod treatment in an animal model of multiple sclerosis. J Nucl Med. 2015 Feb;56(2):305-10.
[5]. Shirakabe K, et al. Modification of lymphocyte migration to Peyer's patches by inhibition of sphingosine-1-phosphate lyase ameliorates murine colitis. J Gastroenterol Hepatol. 2018 Jan 15.

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