Product Data Sheet

Product Name: PSI-7409
Cat. No.: GC37031

Chemical Properties

Cas. No.	1015073-42-3		
SMILES	O[C@@H]([C@@](C)(F)[C@H](N1C(NC(C=C1)=O)=O)O2)[C@H]2COP(O)(OP(OP(O)(O)=O)(O)=O)=O		
Formula	$C_{10}H_{16}FN_2O_{14}P_3$	M.Wt	500.16
Solubility	Water: 50 mg/mL (99.97 mM); DMF: < 1 mg/mL (insoluble); DMSO: < 1 mg/mL (insoluble or slightly soluble)	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	PSI-7409		

Background

PSI-7409 is the active 5'-triphosphate metabolite of Sofosbuvir (PSI-7977). Sofosbuvir (PSI-7977) is a selective and highly active nucleotide analog inhibitor of HCV.

PSI-7409 inhibits the enzymatic activities of these NS5Bδ21 polymerases in a dose-dependent manner. The IC50s for PSI-7409 against GT 1b, 2a, 3a, and 4a NS5B polymerases are 1.6 μM, 2.8 μM, 0.7 μM, and 2.6 μM, respectively. PSI-7409 is a weak inhibitor of DNA Pol α (IC50=550 μM). DNA Pol β and γ are not inhibited by 1 mM PSI-7409. A significant amount of RNA product is made in the presence of 500 μM PSI-7409, about 85%[1]. In clone A cells, the levels of PSI-7409 gradually increases to a maximum concentration of about 25 μm over a period of 48 h. PSI-7409 forms at a much faster rate in primary human hepatocytes, achieving a maximum intracellular concentration of ~100 μM at 4 h and remains at that concentration for 48 h[2].

[1]. Lam AM, et al. PSI-7851, a pronucleotide of beta-D-2'-deoxy-2'-fluoro-2'-C-

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methyluridine monophosphate, is a potent and pan-genotype inhibitor of hepatitis C virus replication. Antimicrob Agents Chemother. 2010 Aug;54(8):3187-96. [2]. Murakami E, et al. Mechanism of activation of PSI-7851 and its diastereoisomer PSI-7977.