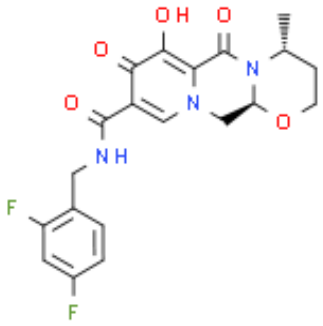
Product Data Sheet

Cas No.:	1051375-16-6	Cat. No:	PC15669
Product Name:	S/GSK1349572.		
Product synonym:	度鲁特韦 GMP;德罗特韦(GSK-1349572,DTG);度鲁特韦;(4R,12AS)-N-[(2,4-二氟苯基)甲基]-3,4,6,8,12,12A-六氢-7-羟基-4-甲基-6,8-二氧代-2H-吡啶并[1',2'4,5]吡嗪并[2,1-B][1,3]嗪-9-甲酰;Dolutegravir标准品;德罗特韦;德罗特韦 GSK-1349572;度鲁特维游离酸;(4R,12aS)-N-[(2,4-二氟苯基)甲基]-3,4,6,8,12,12a-六氢-7-羟基-4-甲基-6,8-二氧代-2H-吡啶并[1',2':4,5]吡嗪并[2,1-b][1,3]噁嗪-9-甲酰胺;多替拉韦;杜鲁特韦;多特格伟;度鲁特韦游离酸;杜鲁特韦,德罗特韦;德罗特韦 GSK1349572;DOLUTEGRAVIR 度鲁特韦;多替拉韦杂质1		
Chemical name:	S/GSK1349572.		
MF:	C20H19N3O5F2	FW:	419.37876
Purity:	≥98%	Batch No.:	-
Storage:			
Structural formula:			
λmax：	-	Formulation：	-
Solubility :			
SMILES :	FC1=CC(F)=C(C=C1)CNC(C2=CN(C3=C(C2=O)O)C[C@@]([H])(N4C3=O)OCC[C@H]4C)=O		
InChI Code:	-		
InChI Key:			
WARNING This product is not for human or veterinary use.			

Product Description

HIV整合酶抑制剂，Dolutegravir是第二代HIV整合酶链转移抑制剂 (INSTI)，IC50 为 2.7 nM。

生物活性	Dolutegravir (S/GSK1349572) is a highly potent and orally bioavailable **HIV integrase strand transfer** inhibitor with an **IC_{50}** of 2.7 nM for HIV-1 integrase-catalyzed strand transfer. Dolutegravir (S/GSK1349572) inhibits HIV-1 viral replication with an IC_{50} of 0.51 nM in peripheral blood mononuclear cells. Dolutegravir retains a high potency against the HIV-1 Y143R, N155H, and G140S/Q148H mutants (EC_{50}=3.6-5.8 nM).
IC50 & Target[1][2]	IC50: 2.7 nM (HIV-1 integrase-catalyzed strand transfer)

体外研究(In Vitro)	The EC_{50} of Dolutegravir (S/GSK1349572) against HIV-1 is 0.51 nM in PBMCs, 0.71 nM in MT-4 cells, and 2.2 nM in the PHIV assay, which uses a pseudotyped self-inactivating virus. The 50% cytotoxic concentrations (CC_{50}) for Dolutegravir in proliferating IM-9, U-937, MT-4, and Molt-4 cells are 4.8, 7.0, 14, and 15 μM, respectively. In unstimulated and stimulated PBMCs, the CC_{50} are 189 μM and 52 μM, respectively. Based on the EC_{50} of Dolutegravir against HIV-1 in PBMCs (i.e., 0.51 nM), this translates to a cell-based therapeutic index of at least 9,400. **Medlife has not independently confirmed the accuracy of these methods. They are for reference only.**
体内研究(In Vivo)	Following a single intravenous (IV) administration of Dolutegravir, the plasma clearance is low in rats (0.23 mL/min/kg) and monkeys (2.12 mL/min/kg). The half-lives in the rat and monkey are similar, approximately 6 h, and the steady-state volume of distribution (V_{SS}) is low. Following oral administration, Dolutegravir is rapidly absorbed with a high oral bioavailability when administered as a solution to fasted male rats and a single monkey (75.6 and 87.0%, respectively). Dolutegravir exposure (C_{max} and AUC) increased with increasing dose following oral administration of a suspension to non-fasted rats up to 250 mg/kg and non-fasted monkeys up to 50 mg/kg, although the increase is less than proportional. **Medlife has not independently confirmed the accuracy of these methods. They are for reference only.**
包装储存	Powder **-20°C** 3 years **4°C** 2 years In solvent **-80°C** 6 months **-20°C** 1 month

体外研究:

DMSO : 10 mg/mL (23.84 mM; Need ultrasonic and warming)

配制储备溶液	质量 溶剂体积 浓度	1 mg	5 mg	10 mg
	1 mM	2.3845 mL	11.9224 mL	23.8447 mL
	5 mM	0.4769 mL	2.3845 mL	4.7689 mL
	10 mM	0.2384 mL	1.1922 mL	2.3845 mL

* 产品不同，其溶解度不同。建议根据产品选择合适的溶剂配制储备溶液；配成溶液后，**建议分装保存，避免反复冻融造成的产品失效**。
  储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。-80°C 储存时，建议在 6 个月内使用，-20°C 储存时，建议在 1 个月内使用。

体内研究:

建议根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都建议先按照 **体外研究** 方式配制澄清的储备液，再依次添加助溶剂：

——为保证实验结果的可靠性，**澄清的储备液可以根据储存条件，适当保存**；体内实验的工作液，**建议您现用现配，当天使用**； 以下溶剂前显示的百
分比是指**该溶剂在您配制终溶液中的体积占比**；如在配制过程中出现沉淀、析出现象，可以通过**加热和/或超声的方式助溶**

1. 建议依照次序添加每种溶剂： 5% DMSO 95% (20% SBE-β-CD in saline)

溶解度数据	Solubility: ≥ 2.62 mg/mL (6.25 mM); Clear solution 2. 建议依照次序添加每种溶剂： 10% DMSO 40% PEG300 5% Tween-80 45% saline Solubility: ≥ 2.5 mg/mL (5.96 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.96 mM，饱和度未知) 的澄清溶液。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 400 μL PEG300 中，混合均匀；向上述体系中加入50 μL Tween-80，混合均匀；然后继续加入 450 μL生理盐水定容至 1 mL。 将 0.9 g 氯化钠，完全溶解于 100 mL ddH?O 中，得到澄清透明的生理盐水溶液 3. 建议依照次序添加每种溶剂： 10% DMSO 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.96 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.96 mM，饱和度未知) 的澄清溶液。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 20% 的 SBE-β-CD 生理盐水水溶液中，混合均匀。 将 2 g 磺丁基醚 β-环糊精加入 5 mL 生理盐水中，再用生理盐水定容至 10 mL，完全溶解，澄清透明 4. 建议依照次序添加每种溶剂： 10% DMSO 90% corn oil Solubility: ≥ 2.5 mg/mL (5.96 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.96 mM，饱和度未知) 的澄清溶液，此方案不适用于实验周期在半个月以上的实验。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 900 μL玉米油中，混合均匀。 *