JE-2147

Cat. No.: HY-100212

CAS No.: 186538-00-1

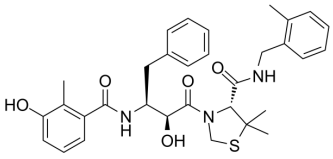
Molecular Formula: $C_{32}H_{37}N_3O_5S$

Molecular Weight: 575.72

Target: HIV; HIV Protease

Pathway: Anti-infection; Metabolic Enzyme/Protease

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

JE-2147 (AG1776) is a potent dipeptide protease inhibitor with a K_i of 0.33 nM for HIV-1 protease. JE-2147 has effective activities against a wide spectrum of HIV-1, HIV-2, simian immunodeficiency virus, and various clinical HIV-1 strains in vitro[1] [2].

IC_{50} & Target

IC_{50}: 44 nM [HIV-1_{LAI} (SI)], 24 nM [HIV-1_{Ba-L} (SI)], 35 nM [HIV-1_{LAI} (NSI)], 47 nM [HIV-2_{EHO} (SI)][1]
K_i:0.33 nM (HIV-1 protease)[2]

In Vitro

JE-2147 (0.01-0.05 μM; 7 days; PBMC and MT-2 cells) exhibits highly potent antiviral activity against HIV-1 with IC_{50}s of 44 nM, 24 nM, 35 nM and 47 nM for HIV-1_{LAI} (SI), HIV-1_{Ba-L} (SI), HIV-1_{LAI} (NSI) and HIV-2_{EHO} (SI), respectively[1].
JE-2147 is effective against the replication of HIV-1 IIIB in various cells (T cell, B cell, macrophage, and PBMC) with IC_{50} values ranging from 31 to 160 nM and also had antiviral activity against simian immunodefidiency virus and HIV-2[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

JE-2147 exhibits good oral bioavailability and plasma pharmacokinetic profiles in dogs and rats[2].
Pharmacokinetic Parameters of JE-2147 in beagle dogs and male Sprague-Dawley rats[2].

	Sprague-Dawley rats		Beagle dogs		
	i.v., 10 mg/kg	i.d., 10 mg/kg	i.v., 25 mg/kg	p.o.(fed), 25 mg/kg	p.o.(fasted), 25 mg/kg
$t_{1/2β}$ (min)	93	/	94	/	/
C_{max} (μM)	/	0.70 ± 0.20	/	4.02 ± 0.72	5.30 ± 1.13
T_{max} (min)	/	60	/	90	60
F (%)	/	41.6 ± 10.7	/	32.6 ± 0.06	37.1 ± 0.08
CL (L/h/kg)	/	/	0.88 ± 0.09	/	/

Vd, ss (L/kg)	/	/	1.58	/	/
AUC_{0-24} (μM·min)	/	/	/	1009	1149

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Beagle dogs and male Sprague-Dawley rats[2]
Dosage:	25 mg/kg for dogs; 10 mg/kg for rats
Administration:	i.v. and i.d. for rats; i.v. and p.o. for dogs.
Result:	Exhibited favorable pharmacokinetic properties.

REFERENCES

[1]. Yoshimura K, et al. JE-2147: a dipeptide protease inhibitor (PI) that potently inhibits multi-PI-resistant HIV-1. Proc Natl Acad Sci U S A. 1999 Jul 20;96(15):8675-80.

[2]. Mimoto T, et al. Structure-activity relationship of small-sized HIV protease inhibitors containing allophenylnorstatine. J Med Chem. 1999 May 20;42(10):1789-802.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA