Alogliptin-d_3

Cat. No.: HY-A0023AS1

CAS No.: 1133421-35-8

Molecular Formula: $C_{18}H_{18}D_3N_5O_2$

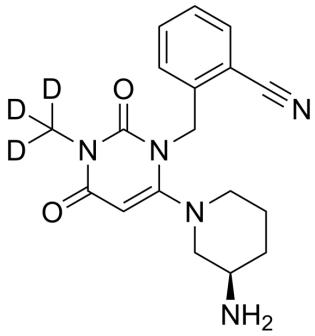
Molecular Weight: 342.41

Target: Dipeptidyl Peptidase; Ferroptosis; Isotope-Labeled Compounds

Pathway: Metabolic Enzyme/Protease; Apoptosis; Others

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (292.05 mM; Need ultrasonic)
DMSO : 100 mg/mL (292.05 mM; Need ultrasonic)
H2O : 10 mg/mL (29.20 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.9205 mL	14.6024 mL	29.2048 mL
5 mM	0.5841 mL	2.9205 mL	5.8410 mL
10 mM	0.2920 mL	1.4602 mL	2.9205 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Alogliptin-d_3 is the deuterium labeled Alogliptin. Alogliptin (SYR-322 free base) is a potent, selective and orally active inhibitor of DPP-4 with an IC50 of <10 nM, and exhibits greater than 10,000-fold selectivity over DPP-8 and DPP-9. Alogliptin can be used for the research of type 2 diabetes[1][2][3].

IC_{50} & Target

DPP-4

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].

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

REFERENCES

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[2]. Hao FL, et, al. The neurovascular protective effect of alogliptin in murine MCAO model and brain endothelial cells. Biomed Pharmacother. 2019 Jan;109:181-187.

[3]. Feng J, et al. Discovery of alogliptin: a potent, selective, bioavailable, and efficacious inhibitor of dipeptidyl peptidase IV. J Med Chem. 2007 May 17;50(10):2297-300.

[4]. Ta NN, et al. DPP-4 (CD26) inhibitor alogliptin inhibits TLR4-mediated ERK activation and ERK-dependent MMP-1 expression by U937 histiocytes. Atherosclerosis. 2010 Dec;213(2):429-35.

[5]. Asakawa T, et al. A novel dipeptidyl peptidase-4 inhibitor, alogliptin (SYR-322), is effective in diabetic rats with sulfonylurea-induced secondary failure. Life Sci. 2009 Jul 17;85(3-4):122-6.

[6]. Moritoh Y, et al. The dipeptidyl peptidase-4 inhibitor alogliptin in combination with pioglitazone improves glycemic control, lipid profiles, and increases pancreatic insulin content in ob/ob mice. Eur J Pharmacol. 2009 Jan 14;602(2-3):448-54.

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