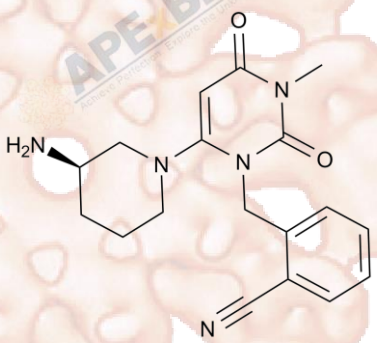
Product Data Sheet

Alogliptin (SYR-322)

Cat. No.:	A4038
CAS No.:	850649-61-5
Formula:	C18H21N5O2
M.Wt:	339.39
Synonyms:	Alogliptin,SYR322
Target:	Proteases
Pathway:	DPP-4
Storage:	Store at -20°C



Solvent & Solubility

In Vitro

insoluble in H2O; ⩾100 mg/mL in EtOH with ultrasonic; ⩾14.75 mg/mL in DMSO

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	2.9465 mL	14.7323 mL	29.4646 mL
5 mM	0.5893 mL	2.9465 mL	5.8929 mL
10 mM	0.2946 mL	1.4732 mL	2.9465 mL

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

Biological Activity

Shortsummary	DPP-4 inhibitor,potent and highly selective
IC_{50} & Target	< 10 nM (DPP-4)

In Vitro

Cell Viability Assay

Cell Line:	U937 histiocyte
Preparation method：	The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.
Reacting conditions:	5 nM, 48h, inhibited cell proliferation1 nM, 48h, inhibited MMP-1 secretion

	Applications:	Alogliptin inhibited cell proliferation by 53% at concentration of 5 nM. At 1 nM, alogliptin inhibited MMP-1 secretion significantly, suggesting that the inhibitory effect of alogliptin on MMP is not associated with that on cell proliferation.
In Vivo	**Animal experiment**	
	Animal models:	Zucker fa/fa rats
	Dosage form:	Eight-week-old male Zucker fa/fa rats were divided into 5 groups based on body weight and fasting plasma glucose levels and administered vehicle alone (0.5% carboxymethylcellulose) or alogliptin at 0.3, 1, 3, or 10 mg/kg by single bolus oral gavage (5 ml/kg dose volume). At 30 min postdose, rats were given a glucose solution (1 g/kg, 2ml/kg dose volume). Blood glucose concentrations were analyzed up to 90min after glucose load using the Accu-Chek glucometer and plasma insulin concentrations were analyzed up to 60 min after glucose load using an insulin ELISA kit.
	Applications:	Early-phase insulin secretion was increased after a single dose of alogliptin compared with vehicle alone. Alogliptin increased about 1.5, 1.5, and 1.8 fold for the 0.3, 1, and 3 mg/kg doses.Significant decreases in blood glucose excursion were observed for all alogliptin doses compared with vehicle alone after an oral glucose load. Mean baseline-adjusted blood glucose AUC0–90 min was decreased by approximately 31%, 37%, and 41% for the 0.3, 1, and 3 mg/kg doses, respectively.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

See more customer validations on www.apexbt.com.

References

[1] Ta N N, Li Y, Schuyler C A, et al. DPP-4 (CD26) inhibitor alogliptin inhibits TLR4-mediated ERK activation and ERK-dependent MMP-1 expression by U937 histiocytes. Atherosclerosis, 2010, 213(2): 429-435.

[2] Lee B, Shi L, Kassel D B, et al. Pharmacokinetic, pharmacodynamic, and efficacy profiles of alogliptin, a novel inhibitor of dipeptidyl peptidase-4, in rats, dogs, and monkeys. European journal of pharmacology, 2008, 589(1): 306-314.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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