AA26-9

Cat. No.: HY-18522

CAS No.: 1312782-34-5

Molecular Formula: $C_7H_{10}N_4O$

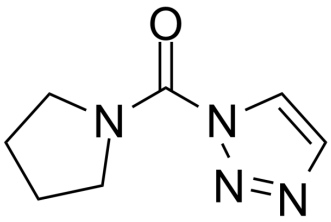
Molecular Weight: 166.18

Target: Phospholipase

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 100 mg/mL (601.76 mM)

DMSO : 100 mg/mL (601.76 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	6.0176 mL	30.0879 mL	60.1757 mL
5 mM	1.2035 mL	6.0176 mL	12.0351 mL
10 mM	0.6018 mL	3.0088 mL	6.0176 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (15.04 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (15.04 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (15.04 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AA26-9 is a potent and broad spectrum serine hydrolase inhibitor. AA26-9 targets included serine peptidases, lipases, amidases, esterases, and thioesterases. AA26-9 shows inhibitory activity against approximately 1/3 of the 40+ serine hydrolases detected in immortalized T cell lines [1][2].

In Vitro

AA26-9 is synthesized based on a piperazine scaffold shown previously to inhibit serine hydrolases in the context of p-

	nitrophenoxy carbamate. AA26-9-inhibited enzymes originated from diverse functional subclasses of serine hydrolases, including lipases/phospholipases (AADACL1, ABHD6, ESD, FAAH, PAFAH2, LYPLA3), peptidases (APEH, PRCP, CTSA), thioesterases (LYPLA1, LYPLA2), and uncharacterized enzymes (ABHD11, ABHD13, BAT5). AA26-9 inhibits one of its enzyme targets LYPLA1 by covalent carbamoylation of the enzyme's serine nucleophile (S114). AA26-9 inhibits 1/3 of the over 40 serine hydrolase found in T-cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	Cells are cultured with 20 μM inhibitor AA26-9 or DMSO as a control for 4 h, lysed, separated into soluble and analyzed by competitive gel-based ABPP[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Adibekian A, et al. Click-generated triazole ureas as ultrapotent in vivo-active serine hydrolase inhibitors. Nat Chem Biol. 2011 May 15;7(7):469-78.

[2]. Borne AL, et al. Deciphering T Cell Immunometabolism with Activity-Based Protein Profiling. Curr Top Microbiol Immunol. 2019;420:175-210.

Caution: Product has not been fully validated for medical applications. For research use only.

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