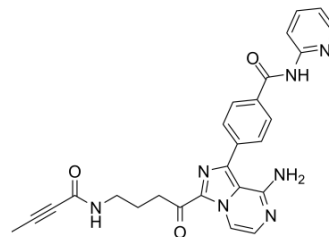


ACP-5862

Cat. No.:	HY-135334		
CAS No.:	2230757-47-6		
Molecular Formula:	C ₂₆ H ₂₃ N ₇ O ₃		
Molecular Weight:	481.51		
Target:	Drug Metabolite; Btk; Cytochrome P450		
Pathway:	Metabolic Enzyme/Protease; Protein Tyrosine Kinase/RTK		
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 : 250 mg/mL (519.20 mM; Need ultrasonic)						
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg	
				1 mM	2.0768 mL	10.3840 mL	20.7680 mL
				5 mM	0.4154 mL	2.0768 mL	4.1536 mL
				10 mM	0.2077 mL	1.0384 mL	2.0768 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: ≥ 2.08 mg/mL (4.32 mM); Clear solution						

BIOLOGICAL ACTIVITY

Description	ACP-5862 is a major active, circulating, pyrrolidine ring-opened metabolite of Acalabrutinib with an IC ₅₀ of 5.0 nM for Bruton tyrosine kinase (BTK) . ACP-5862 is a weak time-dependent inactivator of CYP3A4 and CYP2C8 . Acalabrutinib is an orally active, irreversible, and highly selective BTK inhibitor, with an IC ₅₀ of 3 nM and EC ₅₀ of 8 nM ^{[1][2]} .	
IC ₅₀ & Target	CYP2C8	CYP3A4
In Vivo	Following a single oral dose of 100 mg Acalabrutinib, the half-life of ACP-5862 is 6.9 hours and the mean exposure is approximately twofold to threefold higher than that of Acalabrutinib ^[2] . ACP-5862 (M27) is the major single metabolite in the systemic circulation and accounts for 57.4% and 42.1% of the AUC _{0-t} total radioactivity in male and female rat plasma, respectively. ACP-5862, the major human metabolite, is a relatively minor component in the systemic circulation and accounts for 6.1% and 8.1% of the AUC _{0-t} total	

radioactivity in male and female dog plasma, respectively^[1].

ACP-5862 (1 or 10 μ M) has reversible protein binding of 98.6%, 99.8%, 94.3%, 98.6% in mouse, rat, dog, and human plasma^[1].

REFERENCES

[1]. Herman SE, et al. The Bruton's tyrosine kinase (BTK) inhibitor acalabrutinib demonstrates potent on-target effects and efficacy in two mouse models of chronic lymphocytic leukemia. Clin Cancer Res. 2016 Nov 30

[2]. Diansong Zhou, et al. Evaluation of the Drug-Drug Interaction Potential of Acalabrutinib and Its Active Metabolite, ACP-5862, Using a Physiologically-Based Pharmacokinetic Modeling Approach. CPT Pharmacometrics Syst Pharmacol. 2019 Jul;8(7):489-499.

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

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