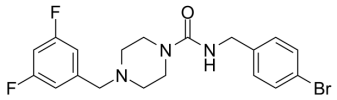
ZK53

Cat. No.:	HY-149677
CAS No.:	3031789-26-8
Molecular Formula:	$C_{19}H_{20}BrF_2N_3O$
Molecular Weight:	424.28
Target:	Mitochondrial Metabolism
Pathway:	Metabolic Enzyme/Protease
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 : 200 mg/mL (471.39 mM; ultrasonic and warming and heat to 80°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3569 mL	11.7847 mL	23.5693 mL
	5 mM	0.4714 mL	2.3569 mL	4.7139 mL
	10 mM	0.2357 mL	1.1785 mL	2.3569 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: 5 mg/mL (11.78 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: 5 mg/mL (11.78 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

ZK53 is a selective activator of mitochondrial caseinolytic protease P (HsClpP) (EC_{50}: 1.37?μM for α-casein hydrolysis by HsClpP). ZK53 is is inactive toward bacterial ClpP proteins. ZK53 induces apoptosis in H1703, H520 and SK-MES-1 cells. ZK53 induces dysregulation of mitochondrial functions in lung squamous cell carcinoma (LUSC) cells. ZK53 inhibits tumor growth in H1703 xenograft mouse model[1].

REFERENCES

[1]. Zhou LL, et al. Selective activator of human ClpP triggers cell cycle arrest to inhibit lung squamous cell carcinoma. Nat Commun. 2023 Nov 3;14(1):7069.

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

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