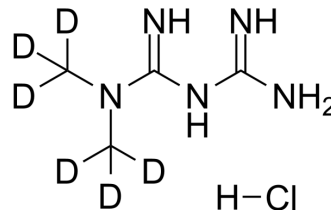


Metformin-d₆ hydrochloride

Cat. No.:	HY-110228
CAS No.:	1185166-01-1
Molecular Formula:	C ₄ H ₆ D ₆ ClN ₅
Molecular Weight:	171.66
Target:	AMPK; Autophagy; Mitophagy; Apoptosis; mTOR
Pathway:	Epigenetics; PI3K/Akt/mTOR; Autophagy; Apoptosis
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 50 mg/mL (291.27 mM; Need ultrasonic)					
	DMSO : 50 mg/mL (291.27 mM; ultrasonic and warming and heat to 60°C)					
	Preparing Stock Solutions	Solvent Mass		1 mg	5 mg	10 mg
		Concentration				
		1 mM		5.8255 mL	29.1273 mL	58.2547 mL
5 mM		1.1651 mL	5.8255 mL	11.6509 mL		
10 mM		0.5825 mL	2.9127 mL	5.8255 mL		
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (12.12 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (12.12 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	Metformin-d ₆ hydrochloride is a deuterium labeled Metformin hydrochloride. Metformin hydrochloride inhibits the mitochondrial respiratory chain in the liver, leading to AMPK activation and enhancing insulin sensitivity, and can be used in the study of type 2 diabetes. Metformin hydrochloride also inhibits liver oxidative stress, nitrosative stress, inflammation, and apoptosis caused by liver ischemia/reperfusion injury. In addition, metformin hydrochloride regulates the expression of autophagy-related proteins by activating AMPK and inhibiting the mTOR signaling pathway, thereby inducing tumor cell autophagy and inhibiting the growth of renal cell carcinoma in vitro and in vivo ^[1] .
IC ₅₀ & Target	AMPK

REFERENCES

[1]. Soraya H, et al. Acute treatment with metformin improves cardiac function following NSC 37745 induced myocardial infarction in rats. Pharmacol Rep. 2012;64(6):1476-84.

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

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