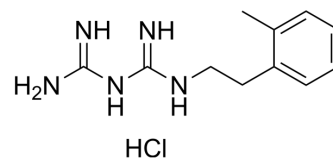


IM176OUT05

Cat. No.:	HY-125283		
CAS No.:	1643659-96-4		
Molecular Formula:	C ₁₁ H ₁₈ ClN ₅		
Molecular Weight:	255.75		
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 : 125 mg/mL (488.76 mM; Need ultrasonic)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	3.9101 mL	19.5503 mL	39.1007 mL
5 mM	0.7820 mL	3.9101 mL	7.8201 mL
10 mM	0.3910 mL	1.9550 mL	3.9101 mL

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

BIOLOGICAL ACTIVITY

Description

IM176OUT05 is a high solubility biguanide. IM176OUT05 activates stem cell metabolism, promotes hair regrowth and increases stemness induction and maintenance during the pluripotent stem cell generation process. IM176OUT05 inhibits mitochondrial electron transport chain (ETC) activity with an IC₅₀ of 3.2 μM^[1].

In Vitro

IM176OUT05 (0.1-10 μM; 24 hour) inhibits mitochondrial function and reduces the oxygen consumption rate (OCR) as a surrogate of mitochondrial electron transport chain (ETC) activity with an IC₅₀ of 3.2 μM^[1].
 IM176OUT05 (10 μM; 6 days) improves the acquisition and maintenance of stem cell pluripotency of mouse and human induced pluripotent stem cells (iPSCs)^[1].
 IM176OUT05 (10 and 100 nM) facilitates the transition of glycolytic metabolism and induces the expression of glycolysis-related genes and ETC complex enzymes^[1].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

IM176OUT05 (200 μL, 1%; apply to the depilated area, once daily) promotes hair regrowth in mice by stimulating the progression of the hair follicle cycle to the anagen phase and increasing the hair follicle number^[1].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	7-week-old C57BL/6 mice ^[1]
Dosage:	200 µL, 1%
Administration:	Apply to the depilated area; 200 µL, 1%, once daily
Result:	Strongly promoted the hair regrowth, especially in female mice.

REFERENCES

[1]. Son MJ, et al. A novel and safe small molecule enhances hair follicle regeneration by facilitating metabolic reprogramming. *Exp Mol Med*. 2018 Dec 6;50(12):1-15.

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

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