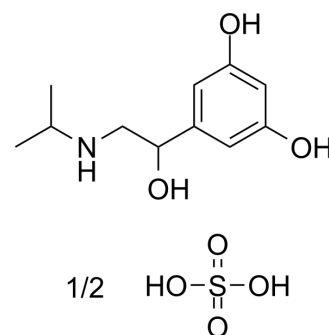


Metaproterenol hemisulfate

Cat. No.:	HY-B1276
CAS No.:	5874-97-5
Molecular Formula:	C ₁₁ H ₁₇ NO ₃ ·1/2H ₂ O ₄ S
Molecular Weight:	260.3
Target:	Adrenergic Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
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	DMSO : 62.5 mg/mL (240.11 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
		Concentration				
		1 mM		3.8417 mL	19.2086 mL	38.4172 mL
		5 mM		0.7683 mL	3.8417 mL	7.6834 mL
10 mM		0.3842 mL	1.9209 mL	3.8417 mL		
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (7.99 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (7.99 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (7.99 mM); Clear solution 					

BIOLOGICAL ACTIVITY

Description	Metaproterenol hemisulfate (Orciprenaline hemisulfate) is a direct-acting sympathomimetic and a β ₂ -adrenergic receptor (β ₂ AR) agonist with an IC ₅₀ of 68 nM. Metaproterenol hemisulfate also has anti-inflammatory activity ^{[1][2]} .
IC₅₀ & Target	IC ₅₀ : 68 nM (β ₂ -adrenergic receptor) ^[1]
In Vitro	Metaproterenol (10 μM; 74 hours; THP-1 cells and bone marrow macrophages) treatment enhances β-arrestin2 and its interaction with IκBα in high glucose-induced THP-1 cells and bone marrow macrophages ^[1] . Metaproterenol (10 μM; 74 hours; THP-1 cells and bone marrow macrophages) treatment leads to downregulation of NF-κB in high glucose-induced THP-1 cells and bone marrow macrophages ^[1] .

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis^[1]

Cell Line:	THP-1 cells and bone marrow macrophages
Concentration:	10 μ M
Incubation Time:	74 hours
Result:	Enhanced β -arrestin2 and its interaction with I κ B α .

RT-PCR^[1]

Cell Line:	THP-1 cells and bone marrow macrophages
Concentration:	10 μ M
Incubation Time:	74 hours
Result:	Led to downregulation of NF- κ B.

In Vivo

Treatment of Zucker diabetic fatty rats with Metaproterenol for 12 weeks attenuates monocyte activation as well as pro-inflammatory and pro-fibrotic responses in the kidneys and heart. Thus, Metaproterenol might has protective effects against diabetic renal and cardiovascular complications^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Noh H, et al. Beta 2-adrenergic receptor agonists are novel regulators of macrophage activation in diabetic renal and cardiovascular complications. *Kidney Int.* 2017 Jul;92(1):101-113.

[2]. Ibrahim FA, et al. Highly sensitive spectrofluorimetric method for rapid determination of orciprenaline in biological fluids and pharmaceuticals. *Luminescence.* 2019 Feb;34(1):77-83.

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

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