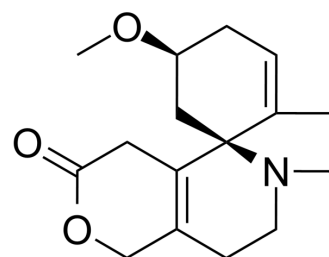


Dihydro-β-erythroidine hydrobromide

Cat. No.:	HY-107670
CAS No.:	29734-68-7
Molecular Formula:	C ₁₆ H ₂₂ BrNO ₃
Molecular Weight:	356.25
Target:	nAChR
Pathway:	Membrane Transporter/Ion Channel; 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)



HBr

SOLVENT & SOLUBILITY

In Vitro

H₂O : 35 mg/mL (98.25 mM; Need ultrasonic and warming)
DMSO : 8 mg/mL (22.46 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		Concentration	1 mg	5 mg	10 mg
	1 mM		2.8070 mL	14.0351 mL	28.0702 mL
	5 mM		0.5614 mL	2.8070 mL	5.6140 mL
	10 mM		0.2807 mL	1.4035 mL	2.8070 mL

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

BIOLOGICAL ACTIVITY

Description

Dihydro-β-erythroidine (DHβE) hydrobromide is a potent, orally active, and competitive antagonist of neuronal nAChRs. Dihydro-β-erythroidine hydrobromide shows selectivity for α4β4 and α4β2 nAChRs, with IC₅₀s of 0.19 and 0.37 μM, respectively. Antidepressant-like activities^{[1][2][3]}.

In Vivo

Dihydro-Beta-Erythroidine hydrobromide (DHβE hydrobromide; 10 nmol/0.5 μL) is infused into the respective areas prior to a systemic nicotine injection (0.2 mg/kg; SC). DHβE infused into the ventral tegmental area (VTA), nucleus accumbens (NAcc), or infralimbic (IL) cortex, but not prelimbic (PrL) cortex, attenuated nicotine-enhanced responding for a conditioned reinforcer (CRf)^[2].

The co-administration of Dihydro-Beta-Erythroidine hydrobromide (5.0 mg/kg; s.c) with nicotine (0.2 and 0.4 mg/kg; s.c.) prevents the development of conditioned taste aversions (CTAs)^[4].

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

Animal Model:	Male hooded Lister rats ^[4]
Dosage:	0.5, 1.6 and 5.0 mg/kg

Administration:	S.c.
Result:	A complete blockade of the nicotine effect produced by the training dose of nicotine (0.2 mg/kg).

REFERENCES

- [1]. Harvey SC, et al. Multiple determinants of dihydro-beta-erythroidine sensitivity on rat neuronal nicotinic receptor alpha subunits. J Neurochem. 1996 Nov;67(5):1953-9.
- [2]. Tabbara RI, et al. Nicotine enhances responding for conditioned reinforcement via $\alpha 4\beta 2$ nicotinic acetylcholine receptors in the ventral tegmental area, but not the nucleus accumbens or the prefrontal cortex. Neuropharmacology. 2019 Apr;148:68-76.
- [3]. Clementson S, et al. Enantioselective Total Synthesis of (+)-Dihydro- β -erythroidine. J Am Chem Soc. 2019 Jun 5;141(22):8783-8786.

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

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