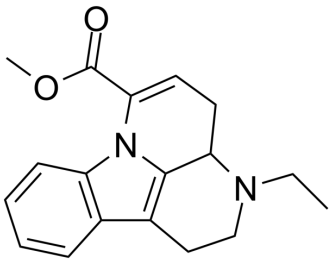
Vinconate

Cat. No.:	HY-U00316
CAS No.:	70704-03-9
Molecular Formula:	$C_{18}H_{20}N_2O_2$
Molecular Weight:	296.36
Target:	mAChR
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Vinconate is an indolonaphthyridine derivative and can stimulate the muscariic acetylcholine receptor.
IC_{50} & Target	muscariic acetylcholine receptor[1]
In Vivo	Treatment with Vinconate (50 to 200 mg/kg p.o.) significantly increases dopamine concentrations in dialysate. Daily treatment with Vinconate (25 mg/kg) for 7 days also significantly increases dopamine and serotonin concentrations in dialysate[1]. Chronic treatment with Vinconate at a 10 mg/kg significantly ameliorats the reduction in [^{3}H]QNB binding in the nucleus accumbens and cerebellum. Furthermore, this Vinconate treatment significantly enhances [^{3}H]QNB binding in the frontal cortex and hippocampus compare with the vehicle-treated aged animals. Also, chronic treatment with Vinconate at the higher dose significantly elevates [^{3}H]QNB binding in the hippocampal CA3 sector and dentate gyrus compare with the vehicle-treated aged animals. Chronic treatment with Vinconate at a dose of 10 mg/kg shows a significant reduction in [^{3}H]HC binding only in the hippocampal CA1 sector compare with the vehicle-treated aged rats[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration [2]	344 male rats, 6 months (adult) and 24 months (aged) of age, are allowed food and water ad lib throughout the experiments. Rats are divided into four groups; (1) 6-month-old; (2) vehicle (distilled water) is administered intraperitoneally (i.p.) once a day for 4 weeks before decapitation; (3) Vinconate at a dose of 10 mg/kg is administered i.p. once a day for 4 weeks before decapitation; (4) Vinconate at a dose of 30 mg/kg is administered i.p. once a day for 4 weeks before decapitation. Rats in groups (2) to (4) are 24 months old. Each group contains 6 to 7 rats. In addition, there are no significant differences among the three aged animal groups in body weight after drug or vehicle treatment[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Iino T, et al. Effect of vinconate, an indolonaphthyridine derivative, on dopamine and serotonin concentrations in dialysate from the striatum of freely moving rats: brain microdialysis studies. J Pharmacol Exp Ther. 1996 Aug;278(2):614-9.

[2]. Araki T, et al. Effects of vinconate on neurotransmitter receptor systems in aged rat brain. Environ Toxicol Pharmacol. 1996 Dec 20;2(4):343-9.

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