

M40

Cat. No.:	HY-P1025
CAS No.:	143896-17-7
Molecular Formula:	C ₉₅ H ₁₄₆ N ₂₂ O ₂₄
Molecular Weight:	1980.31
Sequence:	Gly-Trp-Thr-Leu-Asn-Ser-Ala-Gly-Tyr-Leu-Leu-Gly-Pro-Pro-Pro-Ala-Leu-Ala-Leu-Ala-NH ₂
Sequence Shortening:	GWTLNSAGYLLGPPPALALA-NH ₂
Target:	Neuropeptide Y Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Sealed storage, away from moisture
	Powder -80°C 2 years
	-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

BIOLOGICAL ACTIVITY

Description	M40 is an antagonist or a weak agonist for galanin receptor depending on different subtypes of galanin receptors in the brain, hypothalamus, hippocampus, amygdala and pancreas ^{[1][2][3]} .
In Vitro	M40 (1 μM) displaces [mono ^[125] I-Jodo-Tyr ²⁶]galanin from binding sites in the hippocampus, hypothalamus, and spinal cord. M40 has a lower affinity than galanin for all membranes. The IC ₅₀ values are 6 nM in the hippocampus, 15 nM in the hypothalamus, 12 nM in the spinal cord, and 3 nM in the insulinoma cells. M40 (1 μM) completely blocks ¹²⁵ I-labeled galanin-binding sites ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	M40 (0.1-1 nmol, intracisternal injection, single dose) blocks selectively the central cardiovascular responses induced by galanin-(1-15) in Sprague-Dawley rats models, according to the recognition of galanin receptor in N-terminus ^[1] . M40 (2-8 nmol, intraventricular or intrahippocampal, single dose) exhibits antagonist efficacy against galanin on memory tasks in sprague-dawley rats models, exhibits potency in alleviating the cognitive deficits associated with Alzheimer's disease ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Model:	Vasopressor and tachycardia induced by galanin in Sprague-Dawley rats ^[1]
Dosage:	0.1-1 nmol
Administration:	Intracisternal injection, single dose
Result:	Blocked the feeding effects of galanin in the hypothalamus and amygdala. Reduced vasopressor response and heart rate induced by galanin-(1-15), but not those effects induced by galanin-(1-29).
Animal Model:	Memory impairment induced by galanin in rats model ^[2]

Dosage:	2-8 nmol
Administration:	intraventricular or intrahippocampal, single dose
Result:	Blocked the impairment in choice accuracy.

REFERENCES

- [1]. Narváez JA, et al., The galanin receptor antagonist M40 blocks the central cardiovascular actions of the galanin N-terminal fragment (1-15). Eur J Pharmacol. 2000 Jul 7;399(2-3):197-203.
- [2]. McDonald MP, et al., Galanin inhibits performance on rodent memory tasks. Ann N Y Acad Sci. 1998 Dec 21;863:305-22.
- [3]. Branchek T, et al., Molecular biology and pharmacology of galanin receptors. Ann N Y Acad Sci. 1998 Dec 21;863:94-107.

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

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