

# PRODUCT INFORMATION



## M40 (trifluoroacetate salt)

Item No. 39726

**Formal Name:** glycyl-L-tryptophyl-L-threonyl-L-leucyl-L-asparaginyll-L-seryl-L-alanyl-glycyl-L-tyrosyl-L-leucyl-L-leucylglycyl-L-prolyl-L-prolyl-L-prolyl-L-alanyl-L-leucyl-L-alanyl-L-leucyl-L-alaninamide, trifluoroacetate salt

**Synonym:** Galanin-(1-12)-Pro<sub>3</sub>-(Ala-Leu)<sub>2</sub>-Ala amide

**Peptide Sequence:** GYTLNSAGYLLGPPPALALA-NH<sub>2</sub>

**MF:** C<sub>94</sub>H<sub>145</sub>N<sub>23</sub>O<sub>24</sub> • XCF<sub>3</sub>COOH

**FW:** 1,981.3

**Purity:** ≥95%

**Supplied as:** A solid

**Storage:** -20°C

**Stability:** ≥4 years

H-Gly-Trp-Thr-Leu-Asn-Ser-Ala-Gly-Tyr-Leu-Leu-Gly-Pro-Pro-Pro-Ala-Leu-Ala-Leu-Ala-NH<sub>2</sub> • XCF<sub>3</sub>COOH

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

M40 (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the M40 (trifluoroacetate salt) in water. We do not recommend storing the aqueous solution for more than one day.

### Description

M40 is a chimeric galanin-derived peptide and galanin-1 (GAL<sub>1</sub>) receptor antagonist and GAL<sub>2</sub> receptor agonist (K<sub>s</sub> = 2.4 and 4.07 nM, respectively).<sup>1,2</sup> It is selective for the GAL<sub>1</sub> and GAL<sub>2</sub> receptors over the GAL<sub>3</sub> receptor (K<sub>i</sub> = 288 nM).<sup>1</sup> M40 induces inositol phosphate accumulation in CHO cells expressing the human GAL<sub>2</sub> receptor (EC<sub>50</sub> = 16.2 nM) and inhibits forskolin-induced cAMP accumulation in RIN-m5F pancreatic β-cells when used at concentrations of 10 or 100 nM.<sup>1,2</sup> *In vivo*, M40 (9.36 nmol/animal, i.c.v.) reverses galanin-induced inhibition of scopolamine-induced hippocampal acetylcholine (ACh) release in conscious rats.<sup>2</sup> M40 reduces galanin-induced increases in food intake in rats. It improves cardiac function and decreases cardiac fibrosis in a rat model of heart failure induced by sustained coronary artery ligation when administered at a dose of 30 nmol/kg.<sup>3</sup> M40 (20 μg/animal) increases the intromission frequency and ejaculation latency in sexually sluggish male mice.<sup>4</sup>

### References

1. Borowsky, B., Walker, M.W., Huang, L.Y., *et al.* Cloning and characterization of the human galanin GALR2 receptor. *Peptides* **19(10)**, 1771-1781 (1998).
2. Bartfai, T., Langel, Ü., Bedecs, K., *et al.* Galanin-receptor ligand M40 peptide distinguishes between putative galanin-receptor subtypes. *Proc. Natl. Acad. Sci. USA* **90(23)**, 11287-11291 (1993).
3. Chen, A., Li, M., Song, L., *et al.* Effects of the galanin receptor antagonist M40 on cardiac function and remodeling in rats with heart failure. *Cardiovasc. Ther.* **33(5)**, 288-293 (2015).
4. Benelli, A., Bertolini, A., Zoli, M., *et al.* Pharmacological manipulation of brain galaninergic system and sexual behavior in male mice. *Psychopharmacology (Berl)* **160(3)**, 325-330 (2002).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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