

Certificate of Analysis

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Product Name: M40
CAS Number: 143896-17-7

Catalog No.: 3425 **Batch No.:** 5

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₉₄H₁₄₅N₂₃O₂₄
Batch Molecular Weight: 1981.33
Physical Appearance: White lyophilised solid
Net Peptide Content: 89.5%
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in water
Storage: Desiccate at -20°C
Peptide Sequence: Gly-Trp-Thr-Leu-Asn-Ser-Ala-Gly-Tyr-Leu-Leu-Gly-Pro-Pro-Pro-Ala-Leu-Ala-Leu-Ala-NH₂

2. ANALYTICAL DATA

HPLC: Shows 95.1% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid		Theoretical	Actual	Amino Acid		Theoretical	Actual
Ala	4.00	3.90	Lys				
Arg			Met				
Asx	1.00	0.94	Phe				
Cys			Pro	3.00	3.07		
Glx			Ser	1.00	0.86		
Gly	3.00	3.05	Thr	1.00	0.94		
His			Trp	1.00	0.70		
Ile			Tyr	1.00	1.09		
Leu	5.00	5.04	Val				

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Potent, non-selective galanin receptor antagonist (K_i values are 1.82 and 5.1 nM at GAL₁ and GAL₂ respectively) that inhibits galanin (1-29) (Cat. No. 2696) binding in rat brain in vitro (IC_{50} = 3 - 15 nM). Attenuates the antidepressant effects of fluoxetine (Cat. No. 0927) and blocks galanin-induced food intake in vivo. Also exhibits weak partial agonist activity at peripheral GAL₂ receptors at doses > 100 nM.

Physical and Chemical Properties:

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Peptide Sequence:

Gly-Trp-Thr-Leu-Asn-Ser-Ala-Gly-Tyr-Leu-
Leu-Gly-Pro-Pro-Pro-Ala-Leu-Ala-Leu-Ala-NH₂

Storage: Desiccate at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in water
This product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Net Peptide Content: 89.5% (Remaining weight made up of counterions and residual water).

Counter Ion: TFA

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Peptides in solution are much less stable than in lyophilized form. This is especially true for peptides whose sequences contain amino acids such as Cys, Met, Trp, Asn, Gln, and N-terminal Glu.

Therefore we recommend storing peptides in solution for as short a time as possible. Avoid repeated freeze thaw cycles by dividing the peptide solution into aliquots and storing the aliquots at -20°C. Any portion of an aliquot unused after thawing should be discarded.

Peptides stored in solution can occasionally be susceptible to bacterial degradation. We recommend using sterile solutions or passing the peptide solution through a 0.2 µm filter to remove potential bacterial contamination whenever possible.

References:

- Lu et al** (2005) A role for galanin in antidepressant actions with a focus on the dorsal raphe nucleus. *Proc.Natl.Acad.Sci.USA* **102** 874.
Yuan et al (2002) Gastric effects of galanin and its interaction with leptin on brainstem neuronal activity. *J.Pharm.Exp.Ther.* **301** 488.
Bartfai et al (1993) Galanin-receptor ligand M40 peptide distinguishes between putative galanin-receptor subtypes. *Proc.Natl.Acad.Sci.USA* **90** 11287.

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