

Certificate of Analysis

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Product Name: [D-Trp³⁴]-Neuropeptide Y

Catalog No.: 3436

Batch No.: 1

CAS Number: 153549-84-9

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C ₁₉₆ H ₂₈₉ N ₅₅ O ₅₆
Batch Molecular Weight:	4311.77
Physical Appearance:	White lyophilised solid
Net Peptide Content:	78%
Counter Ion:	TFA
Solubility:	Soluble to 0.20 mg/ml in 20% acetonitrile
Storage:	Store at -20°C
Peptide Sequence:	Tyr-Pro-Ser-Lys-Pro-Asp-Asn-Pro-Gly-Glu- Asp-Ala-Pro-Ala-Glu-Asp-Leu-Ala-Arg-Tyr- Tyr-Ser-Ala-Leu-Arg-His-Tyr-Ile-Asn-Leu- Ile-Thr-Arg-D-Trp-Arg-Tyr-NH ₂

2. ANALYTICAL DATA

HPLC:	Shows 99% 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	1.00	0.97
Arg	4.00	4.17	Met		
Asx	5.00	4.89	Phe		
Cys			Pro	4.00	3.96
Glx	2.00	1.97	Ser	2.00	1.97
Gly	1.00	1.02	Thr	1.00	0.87
His	1.00	1.00	Trp		
Ile	2.00	1.82	Tyr	5.00	5.18
Leu	3.00	2.96	Val		

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

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Description:

Potent neuropeptide Y (NPY) Y₅ receptor agonist (pEC₅₀ values are 7.82, 6.28, 6.44 and > 6 at rat Y₅, Y₄, Y₁ and Y₂ receptors respectively) that displays > 26-fold, > 1000-fold and > 1000-fold selectivity over Y₁, Y₂ and Y₄ receptors respectively. Induces hyperphagia, body weight gain, adiposity, hypercholesterolemia, hyperinsulinemia and hyperleptinemia in vivo. Orally active.

Physical and Chemical Properties:

Batch Molecular Formula: C₁₉₆H₂₈₉N₅₅O₅₆

Batch Molecular Weight: 4311.77

Physical Appearance: White lyophilised solid

Peptide Sequence:

Tyr-Pro-Ser-Lys-Pro-Asp-Asn-Pro-Gly-Glu-
Asp-Ala-Pro-Ala-Glu-Asp-Leu-Ala-Arg-Tyr-
Tyr-Ser-Ala-Leu-Arg-His-Tyr-Ile-Asn-Leu-
Ile-Thr-Arg-D-Trp-Arg-Tyr-NH₂

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 0.20 mg/ml in 20% acetonitrile

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: 78% (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:

Parker et al (2000) [D-Trp³⁴] neuropeptide Y is a potent and selective neuropeptide Y Y₅ receptor agonist with dramatic effects on food intake. *Peptides* **21** 393. PMID: 10793222.

Mashiko et al (2003) Characterization of neuropeptide Y (NPY) Y₅ receptor-mediated obesity in mice: chronic intracerebroventricular infusion of D-Trp³⁴NPY. *Endocrinology* **144** 1793. PMID: 12697685.

Beck et al (2007) Responsiveness of obese Zucker rats to [D-Trp³⁴]-NPY supports the targeting of Y₅ receptor for obesity treatment. *Nutr.Neurosci.* **10** 211. PMID: 18284029.

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