

Certificate of Analysis

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Product Name: Spexin
CAS Number: 1370290-58-6

Catalog No.: 6090 **Batch No.:** 5

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₇₄H₁₁₄N₂₀O₁₉S
Batch Molecular Weight: 1619.9
Physical Appearance: White lyophilised solid
Net Peptide Content: 81%
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Asn-Trp-Thr-Pro-Gln-Ala-Met-Leu-Tyr-Leu-Lys-Gly-Ala-Gln-NH₂

2. ANALYTICAL DATA

HPLC: Shows 99% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Actual		
Ala	2.00	1.89	Lys	1.00	1.00
Arg			Met	1.00	1.01
Asx	1.00	0.85	Phe		
Cys			Pro	1.00	1.01
Glx	2.00	2.02	Ser		
Gly	1.00	1.03	Thr	1.00	0.87
His			Trp	1.00	Detected
Ile			Tyr	1.00	1.03
Leu	2.00	2.01	Val		

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

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

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Description:

Spexin is a potent galanin receptor 2/3 (GAL₂/GAL₃) agonist (EC₅₀ values are 45.7 and 112.2 nM, respectively). Exhibits no significant activity at galanin receptor 1. Endogenous satiety-inducing peptide; inhibits long chain fatty acid uptake by adipocytes and decreases food consumption in diet-induced obese mice and rats. Attenuates LH secretion in goldfish. Exhibits anxiolytic effects in vivo.

Physical and Chemical Properties:

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Physical Appearance: White lyophilised solid

Peptide Sequence:

Asn-Trp-Thr-Pro-Gln-Ala-Met-Leu-Tyr-Leu-
Lys-Gly-Ala-Gln-NH₂

Storage: Store 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: 81% (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:

Reyes-Alcaraz et al (2016) Development of spexin-based human galanin receptor type II-specific agonists with increased stability in serum and anxiolytic effect in mice. *Sci.Rep.* **6** 21453. PMID: 26907960.

Kim et al (2014) Coevolution of the spexin/galanin/kisspeptin family: Spexin activates galanin receptor type II and III. *Endocrinology* **155** 1864. PMID: 24517231.

Walewski et al (2014) Spexin is a novel human peptide that reduces adipocyte uptake of long chain fatty acids and causes weight loss in rodents with diet-induced obesity *Obesity* (Silver Spring) **22** 1643. PMID: 24550067.

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