

Certificate of Analysis

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Product Name: Colivelin
CAS Number: 867021-83-8

Catalog No.: 3945 **Batch No.:** 7

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₁₉H₂₀₆N₃₂O₃₅
Batch Molecular Weight: 2645.13
Physical Appearance: White lyophilised solid
Net Peptide Content: 82%
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in 20% ethanol / water
Storage: Store at -20°C
Peptide Sequence: Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala-Pro-Ala-Gly-Ala-Ser-Arg-Leu-Leu-Leu-Leu-Thr-Gly-Glu-Ile-Asp-Leu-Pro

2. ANALYTICAL DATA

HPLC: Shows 97% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid		Theoretical	Actual	Amino Acid		Theoretical	Actual
Ala	4.00	3.78	Lys				
Arg	2.00	1.98	Met				
Asx	1.00	1.02	Phe				
Cys			Pro	3.00	2.85		
Glx	1.00	1.04	Ser	3.00	2.86		
Gly	2.00	2.01	Thr	1.00	0.99		
His			Trp				
Ile	2.00	2.00	Tyr				
Leu	7.00	6.93	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:

Neuroprotective peptide and activator of STAT3. Protects neurons against the neurotoxic effects of amyloid β -peptide (1-43) at a concentration of 100 fM in vitro. Suppresses neuronal death by activating STAT3 in vitro; upregulates cholinergic transmission and ameliorates memory impairment in Alzheimer's disease (AD) models. Also prevents alcohol-induced apoptosis in a fetal mouse model. Brain penetrant.

Physical and Chemical Properties:

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Batch Molecular Weight: 2645.13

Physical Appearance: White lyophilised solid

Peptide Sequence:

Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala-Pro-
Ala-Gly-Ala-Ser-Arg-Leu-Leu-Leu-Leu-Thr-
Gly-Glu-Ile-Asp-Leu-Pro

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in 20% ethanol / 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: 82% (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 μ m filter to remove potential bacterial contamination whenever possible.

References:

Sari et al (2009) A novel peptide, colivelin, prevents alcohol-induced apoptosis in fetal brain of C57BL/6 mice: signaling pathway investigations. *Neuroscience* **164** 1653. PMID: 19782727.

Yamada et al (2008) Nasal colivelin treatment ameliorates memory impairment related to Alzheimer's disease. *Neuropsychopharmacology* **33** 2020. PMID: 17928813.

Chiba et al (2005) Development of a femtomolar-acting humanin derivative named colivelin by attaching activity-dependent neurotrophic factor to its N terminus: characterization of colivelin-mediated neuroprotection against Alzheimer's disease-relevant insults in vitro and in vivo. *J. Neurosci.* **25** 10252. PMID: 16267233.

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