

# Certificate of Analysis

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

**Catalog No.:** 3945 **Batch No.:** 9

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>119</sub>H<sub>206</sub>N<sub>32</sub>O<sub>35</sub>  
**Batch Molecular Weight:** 2645.13  
**Physical Appearance:** White lyophilised solid  
**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 97.7% purity  
**Mass Spectrum:** Consistent with structure

## 3. AMINO ACID ANALYSIS DATA

Amino Acid		Theoretical	Actual	Amino Acid		Theoretical	Actual
Ala	4.00	3.86	Lys				
Arg	2.00	1.94	Met				
Asx	1.00	1.00	Phe				
Cys			Pro	3.00	3.04		
Glx	1.00	1.01	Ser	3.00	3.00		
Gly	2.00	2.00	Thr	1.00	1.01		
His			Trp				
Ile	2.00	1.89	Tyr				
Leu	7.00	6.74	Val				

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

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CAS Number: 867021-83-8

**Description:**

Colivelin is a neuroprotective peptide and activator of STAT3. Protects neurons against the neurotoxic effects of amyloid  $\beta$ -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:**Batch Molecular Formula: C<sub>119</sub>H<sub>206</sub>N<sub>32</sub>O<sub>35</sub>

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 in lyophilized form. It may appear as a solid, gel or film and 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.

**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  $\mu$ 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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