

# Certificate of Analysis

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**Product Name:** PG 931  
CAS Number: 667430-81-1

**Catalog No.:** 5094      **Batch No.:** 2

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>59</sub>H<sub>85</sub>N<sub>15</sub>O<sub>11</sub>  
**Batch Molecular Weight:** 1180.41  
**Physical Appearance:** White lyophilised solid  
**Net Peptide Content:** 76%  
**Counter Ion:** TFA  
**Solubility:** Soluble to 2 mg/ml in 25% ethanol / water  
**Storage:** Store at -20°C  
**Peptide Sequence:** Ac-Nle-cyclo(Asp-Pro-D-Phe-Arg-Trp-Lys)-Pro-Val-NH<sub>2</sub>

## 2. ANALYTICAL DATA

**HPLC:** Shows 98.3% purity  
**Mass Spectrum:** Consistent with structure

## 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Actual		
Ala			Lys	1.00	0.88
Arg	1.00	1.05	Met		
Asx	1.00	0.85	Phe	1.00	0.99
Cys			Pro	2.00	2.02
Glx			Ser		
Gly			Thr		
His			Trp		
Ile			Tyr		
Leu			Val	1.00	1.07

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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CAS Number: 667430-81-1

**Description:**

Potent and selective melanocortin 4 (MC<sub>4</sub>) receptor agonist (IC<sub>50</sub> values are 0.58 and 55 nM for human MC<sub>4</sub> and MC<sub>3</sub> receptors respectively). Produces a rapid and dose dependent restoration of cardiovascular and respiratory function in hemorrhage-shocked rats.

**Physical and Chemical Properties:**Batch Molecular Formula: C<sub>59</sub>H<sub>85</sub>N<sub>15</sub>O<sub>11</sub>

Batch Molecular Weight: 1180.41

Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Ac-Nle-cyclo(Asp-Pro-D-Phe-Arg-Trp-Lys)-  
Pro-Val-NH<sub>2</sub>

**Storage:** Store at -20°C**Solubility & Usage Info:**

Soluble to 2 mg/ml in 25% 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:** 76% (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:**

**Giuliani et al** (2007) Selective melanocortin MC<sub>4</sub> receptor agonists reverse haemorrhagic shock and prevent multiple organ damage. *Br.J.Pharmacol.* **150** 595. PMID: 17245369.

**Grieco et al** (2003) Extensive structure-activity studies of lactam derivatives of MT-II and SHU-9119: their activity and selectivity at human melanocortin receptors 3, 4, and 5. *J.Pept.Res.* **62** 199. PMID: 14531843.

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