

# Certificate of Analysis

[www.tocris.com](http://www.tocris.com)

**Product Name:** ZIP  
**CAS Number:** 863987-12-6

**Catalog No.:** 2549 **Batch No.:** 13

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>90</sub>H<sub>154</sub>N<sub>30</sub>O<sub>17</sub>  
**Batch Molecular Weight:** 1928.4  
**Physical Appearance:** White lyophilised solid  
**Counter Ion:** TFA  
**Solubility:** Soluble to 1 mg/ml in water  
**Storage:** Store at -20°C  
**Peptide Sequence:** Myr-Ser-Ile-Tyr-Arg-Arg-Gly-Ala-Arg-Arg-Trp-Arg-Lys-Leu

## 2. ANALYTICAL DATA

**HPLC:** Shows 99.2% purity  
**Mass Spectrum:** Consistent with structure

## 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala	1.00	1.01	Lys	1.00	1.00
Arg	5.00	4.95	Met		
Asx			Phe		
Cys			Pro		
Glx			Ser	1.00	0.98
Gly	1.00	1.01	Thr		
His			Trp	1.00	Not Detected
Ile	1.00	1.01	Tyr	1.00	1.02
Leu	1.00	1.01	Val		

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

**bio-techne.com**  
[info@bio-techne.com](mailto:info@bio-techne.com)  
[techsupport@bio-techne.com](mailto:techsupport@bio-techne.com)

**North America**  
 Tel: (800) 343 7475

**China**  
[info.cn@bio-techne.com](mailto: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](http://www.tocris.com/distributors)  
 Tel: +1 612 379 2956

**Product Name:** ZIP

**Catalog No.:** 2549

**Batch No.:** 13

CAS Number: 863987-12-6

**Description:**

ZIP is a novel, cell-permeable inhibitor of protein kinase Mζ (PKMζ), a constitutively active, atypical PKC isozyme involved in LTP maintenance. Selectively blocks PKMζ-induced synaptic potentiation in hippocampal slices in vitro. Reverses late-phase LTP (IC<sub>50</sub> = 1 - 2.5 μM) and produces persistent loss of 1-day-old spatial memory following central administration in vivo. Control Peptide and Biotinylated Peptide also available.

**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>90</sub>H<sub>154</sub>N<sub>30</sub>O<sub>17</sub>

Batch Molecular Weight: 1928.4

Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Myr-Ser-Ile-Tyr-Arg-Arg-Gly-Ala-Arg-Arg-  
Trp-Arg-Lys-Leu

**Storage:** Store at -20°C

**Solubility & Usage Info:**

Soluble to 1 mg/ml in 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 μm filter to remove potential bacterial contamination whenever possible.

**References:**

**Pastalkova et al** (2006) Storage of spatial information by the maintenance mechanism of LTP. *Science* **313** 1141. PMID: 16931766.

**Serrano et al** (2005) Persistent phosphorylation by protein kinase Mz maintains late-phase long-term potentiation. *J.Neurosci.* **25** 1979. PMID: 15728837.

**Ling et al** (2002) Protein kinase Mz is necessary and sufficient for LTP maintenance. *Nature Neurosci.* **5** 295.

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