

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

Catalog No.: 2549 **Batch No.:** 12

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₉₀H₁₅₄N₃₀O₁₇
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 99.7% 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		

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Description:

ZIP is a novel, cell-permeable inhibitor of protein kinase M ζ (PKM ζ), a constitutively active, atypical PKC isozyme involved in LTP maintenance. Selectively blocks PKM ζ -induced synaptic potentiation in hippocampal slices in vitro. Reverses late-phase LTP (IC₅₀ = 1 - 2.5 μ M) and produces persistent loss of 1-day-old spatial memory following central administration in vivo. Control Peptide and Biotinylated Peptide also available.

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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 μ m 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 M ζ maintains late-phase long-term potentiation. *J. Neurosci.* **25** 1979. PMID: 15728837.

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

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