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Print Date: Mar 3rd 2023

Certificate of Analysis

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Product Name: **ZIP** **Catalog No.: 2549** **Batch No.: 12**

CAS Number: 863987-12-6

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{90}H_{154}N_{30}O_{17}$

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 99.8% 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	Detected
Ile	1.00	1.01	Tyr	1.00	1.02
Leu	1.00	1.01	Val		

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Product Name: **ZIP** **Catalog No.: 2549** **12**

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_{50} = 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: $C_{90}H_{154}N_{30}O_{17}$

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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 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.

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 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.