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Print Date: Apr 27th 2016

Certificate of Analysis

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Product Name: **Difopein** **Catalog No.: 2145** **Batch No.: 6**

CAS Number: 396834-58-5

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_{273}H_{424}N_{76}O_{89}S_6$
Batch Molecular Weight:	6387.17
Physical Appearance:	White lyophilised solid
Net Peptide Content:	92%
Counter Ion:	TFA
Solubility:	Soluble to 5 mg/ml in water
Storage:	Desiccate at -20°C
Peptide Sequence:	Ser-Ala-Asp-Gly-Ala-Pro-His-Cys-Val-Pro-Arg-Asp-Leu-Ser-Trp-Leu-Asp-Leu-Glu-Ala-Asn-Met-Cys-Leu-Pro-Gly-Ala-Ala-Gly-Leu-Asp-Ser-Ala-Asp-Gly-Ala-Pro-His-Cys-Val-Pro-Arg-Asp-Leu-Ser-Trp-Leu-Asp-Leu-Glu-Ala-Asn-Met-Cys-Leu-Pro-Gly-Ala-Ala-Gly-Leu-Glu

2. ANALYTICAL DATA

HPLC:	Shows 95.8% purity
Mass Spectrum:	Consistent with structure

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Product Name: **Difopein** **Catalog No.: 2145** **Batch No.: 6**

CAS Number: 396834-58-5

Description:

Dimeric version of R18 peptide (Cat. No. 2144) that binds to 14.3.3 proteins with high affinity. Competitively inhibits 14.3.3-ligand interactions; blocks the ability of 14.3.3 to bind to target proteins such as Raf-1, Bad, ASK1 and exoenzyme S. Induces apoptosis when expressed in COS-7 and various cancer cells.

Physical and Chemical Properties:

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Ser-Ala-Asp-Gly-Ala-Pro-His-Cys-Val-Pro-Arg-Asp-Leu-Ser-Trp-Leu-Asp-Leu-Glu-Ala-Asn-Met-Cys-Leu-Pro-Gly-Ala-Ala-Gly-Leu-Asp-Ser-Ala-Asp-Gly-Ala-Pro-His-Cys-Val-Pro-Arg-Asp-Leu-Ser-Trp-Leu-Asp-Leu-Glu-Ala-Asn-Met-Cys-Leu-Pro-Gly-Ala-Ala-Gly-Leu-Glu

Storage: Desiccate at -20°C

Solubility & Usage Info:

Soluble to 5 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.

Net Peptide Content: 92% (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 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:

Hermeking (2003) The 14.3.3 cancer connection. Nature Rev.Cancer ***3*** 931.

Masters *et al* (2002) Survival-promoting functions of 14.3.3 proteins. Biochem.Soc.Transactions ***30*** 360.

Masters and Fu (2001) 14.3.3 proteins mediate an essential anti-apoptotic signal. J.Biol.Chem. ***276*** 45193. PMID: 11577088.