

Certificate of Analysis

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Product Name: FRATide
CAS Number: 251087-38-4

Catalog No.: 1835 **Batch No.:** 1

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{192}H_{327}N_{67}O_{60}$
Batch Molecular Weight: 4534.11
Physical Appearance: White lyophilised solid
Net Peptide Content: 70%
Storage: Desiccate at -20°C
Peptide Sequence: Ser-Gln-Pro-Glu-Thr-Arg-Thr-Gly-Asp-Asp-
Asp-Pro-His-Arg-Leu-Leu-Gln-Gln-Leu-Val-
Leu-Ser-Gly-Asn-Leu-Ile-Lys-Glu-Ala-Val-Arg-
Arg-Leu-His-Ser-Arg-Arg-Leu-Gln

2. ANALYTICAL DATA

HPLC: Shows >95% purity

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

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Product Name: FRATide
CAS Number: 251087-38-4

Catalog No.: 1835 **Batch No.:** 1

Description:

Inhibitor of glycogen synthase kinase-3 (GSK-3); derived from FRAT1, the mammalian version of GSK-3-binding protein. Binds to GSK-3, inhibiting its interaction with axin, and also blocks GSK-3-catalyzed phosphorylation of axin and β -catenin. Does not affect GSK-3-mediated phosphorylation of glycogen synthase or eIF2B.

Physical and Chemical Properties:

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Batch Molecular Weight: 4534.11
Physical Appearance: White lyophilised solid

Peptide Sequence:

Ser-Gln-Pro-Glu-Thr-Arg-Thr-Gly-Asp-Asp-
Asp-Pro-His-Arg-Leu-Leu-Gln-Gln-Leu-Val-
Leu-Ser-Gly-Asn-Leu-Ile-Lys-Glu-Ala-Val-Arg-
Arg-Leu-His-Ser-Arg-Arg-Leu-Gln

Storage: Desiccate at -20°C

Solubility & Usage Info:

Most peptides are soluble in distilled water. If the peptide does not completely dissolve addition of 0.1M acetic acid (those containing Arg, Lys, His) or 0.1M ammonia (those containing Asp, Glu) may help. Occasionally 10% DMSO or DMF may be required for extremely insoluble peptides. In addition to these measures sonication may also be helpful.

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: 70% (Remaining weight made up of counterions and residual water).

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:

Thomas et al (1999) A GSK3-binding peptide from FRAT1 selectively inhibits the GSK3-catalysed phosphorylation of axin and α -catenin *FEBS Lett.* **458** 247. PMID: 10481074.

Bax et al (2001) The structure of phosphorylated GSK-3 β complexed with peptide, FRATide, that inhibits α -catenin phosphorylation. *Structure* **9** 1143. PMID: 11738041.

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