1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: \( \text{C}_{166}\text{H}_{268}\text{N}_{54}\text{O}_{48}\text{S}_{7} \)

Batch Molecular Weight: 4012.7

Physical Appearance: White solid

Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Store at -20°C

Peptide Sequence:

```
Arg-Ser-Cys-Ile-Asp-Thr-Ile-Pro-Lys-Ser-
Arg-Cys-Thr-Ala-Phe-Gln-Cys-Lys-His-Ser-
Met-Dap-Tyr-Arg-Leu-Ser-Phe-Cys-Arg-Lys-
Thr-Cys-Gly-Thr-Cys
```

2. ANALYTICAL DATA

HPLC: Shows 98.5% purity

Mass Spectrum: Consistent with structure
Description:
ShK-Dap22 is an extremely potent K₁.3 channel blocker (Kᵦ = 23 pM for mK₁.3 currents). Selective for K₁.3 over other mammalian potassium channels (IC₅₀ values are 23, 1800, 10500, 37000 and 39000 pM for mK₁.3, mK₁.1, hK₁.6, mK₁.4 and rK₁.2 respectively, and >100000 pM for hK₁.5, mK₁.7, hK₃.1, rK₃.4 and hK₄.4). Suppresses T cell activation in vitro (IC₅₀ < 500 pM).

Physical and Chemical Properties:
Batch Molecular Formula: C₁₇₀H₂₆₀N₄₀O₄₈S₇
Batch Molecular Weight: 4012.7
Physical Appearance: White solid

Peptide Sequence:
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Arg-Ser-Cys-Ile-Asp-Thr-Ile-Pro-Lys-Ser-
Arg-Cys-Thr-Ala-Phe-Gln-Cys-Lys-His-Ser-
Met-Dap-Tyr-Arg-Leu-Ser-Phe-Cys-Arg-Lys-
Thr-Cys-Gly-Thr-Cys
```

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: