

Certificate of Analysis

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Product Name: ShK-Dap22

Catalog No.: 3220

Batch No.: 6

CAS Number: 220384-25-8

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₆₆H₂₆₈N₅₄O₄₈S₇
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

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

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Product Name: ShK-Dap22

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CAS Number: 220384-25-8

Description:

ShK-Dap22 is an extremely potent $K_V1.3$ channel blocker ($K_d = 23$ pM for $mK_V1.3$ currents). Selective for $K_V1.3$ over other mammalian potassium channels (IC_{50} values are 23, 1800, 10500, 37000 and 39000 pM for $mK_V1.3$, $mK_V1.1$, $hK_V1.6$, $mK_V1.4$ and $rK_V1.2$ respectively, and >100000 pM for $hK_V1.5$, $mK_V1.7$, $hK_V3.1$, $rK_V3.4$ and hK_{Ca4}). Suppresses T cell activation in vitro ($IC_{50} < 500$ pM).

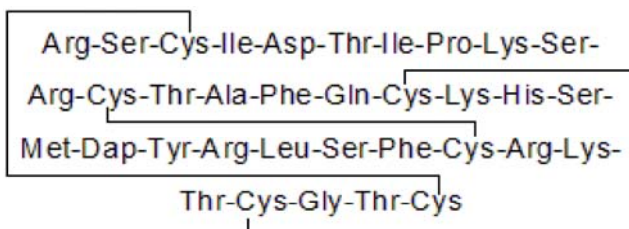
Physical and Chemical Properties:

Batch Molecular Formula: $C_{166}H_{268}N_{54}O_{48}S_7$

Batch Molecular Weight: 4012.7

Physical Appearance: White solid

Peptide Sequence:



Storage: Store at $-20^{\circ}C$

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 $45-60^{\circ}C$ 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 $-20^{\circ}C$. 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 $0.2 \mu m$ filter to remove potential bacterial contamination whenever possible.

References:

Robbins et al (2005) Hypoxia modulates early events in T cell receptor-mediated activation in human T lymphocytes via $K_V1.3$ channels. *J.Physiol.* **564** 131. PMID: 15677684.

Kalman et al (1998) ShK-Dap²², a potent $K_V1.3$ -specific immunosuppressive polypeptide. *J.Biol.Chem.* **273** 32697. PMID: 9830012.

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