1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: \( C_{34}H_{38}N_{6}O_{5} \)
Batch Molecular Weight: 610.67
Physical Appearance: White lyophilised solid
Net Peptide Content: 85.3%
Counter Ion: Acetate
Solubility: Soluble to 0.60 mg/ml in water
Storage: Desiccate at -20°C
Peptide Sequence: Tyr-Pro-Trp-Phe-NH$_2$

2. ANALYTICAL DATA

HPLC: Shows >97.4% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

<table>
<thead>
<tr>
<th>Amino Acid Theoretical</th>
<th>Actual</th>
<th>Amino Acid Theoretical</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ala</td>
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<tr>
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<tr>
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<tr>
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<tr>
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<tr>
<td>Leu</td>
<td>Val</td>
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</tbody>
</table>
Description:
Endogenous peptide with an exceptionally high affinity ($K_i = 360$ pM) and selectivity for $\mu$ opioid receptors (4000- and 15000-fold preference over $\delta$ and $\kappa$ respectively).

Physical and Chemical Properties:
Batch Molecular Formula: $C_{34}H_{38}N_6O_5$
Batch Molecular Weight: 610.67
Physical Appearance: White lyophilised solid

Peptide Sequence:
Tyr-Pro-Trp-Phe-NH$_2$

Storage: Desiccate at -20°C

Solubility & Usage Info:
Soluble to 0.60 mg/ml in water

Net Peptide Content: 85.3% (Remaining weight made up of counterions and residual water).

Counter Ion: Acetate

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 $\mu$m filter to remove potential bacterial contamination whenever possible.

References: