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# Certificate of Analysis

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**Product Name:** **Orphanin FQ (1-11)** **Catalog No.: 3932** **Batch No.: 1**

CAS Number: 178249-41-7

## 1. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Batch Molecular Formula:** | $C_{49}H_{75}N_{15}O_{14}$ |
| **Batch Molecular Weight:** | 1098.2 |
| **Physical Appearance:** | White lyophilised solid |
| **Net Peptide Content:** | 75% |
| **Counter Ion:** | TFA |
| **Solubility:** | Soluble to 2 mg/ml in 20% acetonitrile / water |
| **Storage:** | Store at -20°C |
| **Peptide Sequence:** | Phe-Gly-Gly-Phe-Thr-Gly-Ala-Arg-Lys-Ser-Ala |

## 2. ANALYTICAL DATA

| | |
|---|---|
| **HPLC:** | Shows 98% purity |
| **Mass Spectrum:** | Consistent with structure |

## 3. AMINO ACID ANALYSIS DATA

| Amino Acid | Theoretical | Actual | Amino Acid | Theoretical | Actual |
|---|---|---|---|---|---|
| Ala | 2.00 | 2.00 | Lys | 1.00 | 0.99 |
| Arg | 1.00 | 1.07 | Met | | |
| Asx | | | Phe | 2.00 | 1.97 |
| Cys | | | Pro | | |
| Glx | | | Ser | 1.00 | 0.97 |
| Gly | 3.00 | 2.96 | Thr | 1.00 | 1.04 |
| His | | | Trp | | |
| Ile | | | Tyr | | |
| Leu | | | Val | | |



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**Product Name:** **Orphanin FQ (1-11)** **Catalog No.: 3932** **Batch No.: 1**

CAS Number: 178249-41-7

**Description:**

Peptide fragment containing amino acids 1-11 of Nociceptin (Cat. No. 0910). Potent agonist of the $ORL_1$/KOR-3 receptor ($K_i$ = 55 nM); displays no affinity for opioid receptors, including μ, δ, $\kappa_1$ and $\kappa_3$ receptors ($K_i$ >1000 nM). Displays analgesic properties in CD-1 mice.

**Physical and Chemical Properties:**

Batch Molecular Formula: $C_{49}H_{75}N_{15}O_{14}$

Batch Molecular Weight: 1098.2

Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Phe-Gly-Gly-Phe-Thr-Gly-Ala-Arg-Lys-Ser-Ala

**Storage:** Store at -20°C

**Solubility & Usage Info:**

Soluble to 2 mg/ml in 20% acetonitrile / 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:** 75% (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:**

**Rossi** *et al* (1998) Orphanin FQ/nociceptin analgesia in the rat. Brain Res. ***792*** 327. PMID: 9593974.

**Rossi** *et al* (1997) Pharmacological characterization of orphanin FQ/nociceptin and its fragments. J.Pharmacol.Exp.Ther. ***282*** 858. PMID: 9262352.

**Reinscheid** *et al* (1996) Structure-activity relationship studies on the novel neuropeptide orphanin FQ. J.Biol.Chem. ***271*** 14163. PMID: 8662940.