

# Certificate of Analysis

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**Product Name:** QWF  
**CAS Number:** 126088-82-2

**Catalog No.:** 6642 **Batch No.:** 9

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>38</sub>H<sub>43</sub>N<sub>5</sub>O<sub>8</sub>  
**Batch Molecular Weight:** 697.78  
**Physical Appearance:** White lyophilised solid  
**Solubility:** Soluble to 10 mg/ml in DMSO  
**Storage:** Store at -20°C  
**Peptide Sequence:** Boc-Gln-D-Trp(Formyl)-Phe-OBzl

## 2. ANALYTICAL DATA

**HPLC:** Shows 99.0 % purity  
**Mass Spectrum:** Consistent with structure

## 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Actual	
Ala			Lys	
Arg			Met	
Asx			Phe	1.00 1.02
Cys			Pro	
Glx	1.00	0.98	Ser	
Gly			Thr	
His			Trp	1.00 Not Detected
Ile			Tyr	
Leu			Val	

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

**bio-techne.com**  
info@bio-techne.com  
techsupport@bio-techne.com

**North America**  
Tel: (800) 343 7475

**China**  
info.cn@bio-techne.com  
Tel: +86 (21) 52380373

**Europe Middle East Africa**  
Tel: +44 (0)1235 529449

**Rest of World**  
[www.tocris.com/distributors](http://www.tocris.com/distributors)  
Tel: +1 612 379 2956

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**Description:**

QWF is a tripeptide substance P (SP) antagonist ( $IC_{50} = 90 \mu M$ ). Also inhibits binding of SP to Mas-related GPCR (MRGPR) X2. Inhibits SP-induced IgE-independent degranulation of mast cells in vitro. Inhibits compound 48/80-induced MRGPRX2 activation and scratching in mice in vivo. QWF can be used in a small molecule cocktail to generate 3D culture of lung alveolar cells (see protocol below). For more information about how QWF may be used, see our protocol: 3D Culture of Lung Alveolar Cells Please see product specific page on [www.tocris.com](http://www.tocris.com) for full description.

**Physical and Chemical Properties:**

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Batch Molecular Weight: 697.78

Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Boc-Gln-D-Trp(Formyl)-Phe-OBzl

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

**Solubility & Usage Info:**

Soluble to 10 mg/ml in DMSO

This product is supplied in gross weight.

**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:**

**Azimi et al** (2016) Dual action of neurokinin-1 antagonists on Mas-related GPCRs. JCI Insight. **1** e89362. PMID: 27734033.

**Hagiwara et al** (1992) Studies on neurokinin antagonists. 1. The design of novel tripeptides possessing the glutaminyl-D-tryptophylphenylalanine sequence as substance P antagonists. J. Med. Chem. **35** 2015. PMID: 1375965.

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