

## Certificate of Analysis

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**Product Name:** Antagonist G

**Catalog No.:** 1954

**Batch No.:** 1

CAS Number: 115150-59-9

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>49</sub>H<sub>66</sub>N<sub>12</sub>O<sub>6</sub>S  
**Batch Molecular Weight:** 951.2  
**Physical Appearance:** White lyophilised solid  
**Net Peptide Content:** 84%  
**Solubility:** Soluble to 1 mg/ml in water  
**Storage:** Desiccate at -20°C  
**Peptide Sequence:** Arg-D-Trp-N(Me)Phe-D-Trp-Leu-Met-NH<sub>2</sub>

### 2. ANALYTICAL DATA

**HPLC:** Shows >95% purity  
**Mass Spectrum:** Consistent with structure

### 3. AMINO ACID ANALYSIS DATA

| Amino Acid | Theoretical | Actual | Amino Acid | Theoretical | Actual |
|------------|-------------|--------|------------|-------------|--------|
| Ala        |             |        | Lys        |             |        |
| Arg        | 1.00        | 0.89   | Met        | 1.00        | 0.92   |
| Asx        |             |        | Phe        | 1.00        | 0.91   |
| Cys        |             |        | Pro        |             |        |
| Glx        |             |        | Ser        |             |        |
| Gly        |             |        | Thr        |             |        |
| His        |             |        | Trp        | 2.00        | 2.36   |
| Ile        |             |        | Tyr        |             |        |
| Leu        | 1.00        | 0.91   | Val        |             |        |

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

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**Description:**

Substance P analog that is a broad spectrum neuropeptide antagonist and antiproliferative agent. Blocks Swiss 3T3 cell growth induced by vasopressin, gastrin-releasing peptide and bradykinin. Inhibits neuropeptide-dependent and -independent proliferation of small cell lung cancer *in vitro*; activates JNK and stimulates apoptosis. Inhibits growth of SCLC xenografts in mice *in vivo*.

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Batch Molecular Weight: 951.2

Physical Appearance: White lyophilised solid

**Peptide Sequence:****Arg-D-Trp-N(Me)Phe-D-Trp-Leu-Met-NH<sub>2</sub>****Storage:** Desiccate at -20°C**Solubility & Usage Info:**

Soluble to 1 mg/ml in water

**Net Peptide Content:** 84% (Remaining weight made up of counterions and residual water).**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 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°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:**

**MacKinnon et al** (2000) [Arg<sup>6</sup>, D-Trp<sup>7,9</sup>, N<sup>me</sup>Phe<sup>8</sup>]-Substance P (6-11) (antagonist G) induces AP-1 transcription and sensitizes cells to chemotherapy. *Br.J.Cancer* **83** 941. PMID: 10970698.

**Langdon et al** (1992) Broad spectrum neuropeptide antagonists inhibit the growth of small cell lung cancer *in vivo*. *Cancer Res.* **52** 4554. PMID: 1379515.

**Woll and Rozengurt** (1990) A neuropeptide antagonist that inhibits the growth of small cell lung cancer *in vitro*. *Cancer Res.* **50** 3968. PMID: 1693879.

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**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

Tel: +1 612 379 2956