

# Certificate of Analysis

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**Product Name:** Angiopep-2

**Catalog No.:** 8828

**Batch No.:** 1

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>104</sub>H<sub>149</sub>N<sub>29</sub>O<sub>31</sub>  
**Batch Molecular Weight:** 2301.5  
**Physical Appearance:** White lyophilised solid  
**Counter Ion:** TFA  
**Solubility:** Soluble to 1 mg/ml in water  
**Storage:** Store at -20°C  
**Peptide Sequence:** Thr-Phe-Phe-Tyr-Gly-Gly-Ser-Arg-Gly-Lys-Arg-Asn-Asn-Phe-Lys-Thr-Glu-Glu-Tyr

## 2. ANALYTICAL DATA

**HPLC:** Shows 98.5% purity  
**Mass Spectrum:** Consistent with structure

## 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Actual		
Ala			Lys	2.00	1.96
Arg	2.00	2.01	Met		
Asx	2.00	1.99	Phe	3.00	2.95
Cys			Pro		
Glx	2.00	2.02	Ser	1.00	1.01
Gly	3.00	2.98	Thr	2.00	2.06
His			Trp		
Ile			Tyr	2.00	2.02
Leu			Val		

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

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**Description:**

Angiopep-2 is a synthetic peptide able to specifically interact with low-density lipoprotein receptor-related protein 1 (LRP1) receptors present both on blood-brain barrier (BBB) and tumor cell membranes. Angiopep-2 binding to LRP1 facilitates receptor-mediated transcytosis of cargo across the BBB. Transcytosis-inducing molecular degraders of extracellular proteins (TransMoDEs), containing Angiopep-2 and modified to include a small-molecule ligand, induce target internalization that can cross the BBB in a variety of cell types.

**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>104</sub>H<sub>149</sub>N<sub>29</sub>O<sub>31</sub>

Batch Molecular Weight: 2301.5

Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Thr-Phe-Phe-Tyr-Gly-Gly-Ser-Arg-Gly-Lys-  
Arg-Asn-Asn-Phe-Lys-Thr-Glu-Glu-Tyr

**Storage:** Store at -20°C

**Solubility & Usage Info:**

Soluble to 1 mg/ml in water

This product is supplied in lyophilized form. It may appear as a solid, gel or film and 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°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:**

**Howell et al** (2024) Bifunctional molecules that induce both targeted degradation and transcytosis of extracellular proteins in brain cells. *J.Am.Chem.Soc.* **146** 16404. PMID: 38855935.

**Costagliola di Polidoro et al** (2022) Revealing angiopep-2/LRP1 molecular interaction for optimal delivery to glioblastoma (GBM). *Molecules* **27** 6696. PMID: 36235232.

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