

# Certificate of Analysis

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**Product Name:** Cys-T7 Peptide

**Catalog No.:** 8904

**Batch No.:** 1

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>44</sub>H<sub>65</sub>N<sub>15</sub>O<sub>10</sub>S  
**Batch Molecular Weight:** 996.15  
**Physical Appearance:** White lyophilised solid  
**Counter Ion:** TFA  
**Solubility:** Soluble to 2 mg/ml in water  
**Storage:** Store at -20°C  
**Peptide Sequence:** Cys-His-Ala-Ile-Tyr-Pro-Arg-His

## 2. ANALYTICAL DATA

**HPLC:** Shows 97.3% purity  
**Mass Spectrum:** Consistent with structure

## 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala	1.00	1.01	Lys		
Arg	1.00	1.00	Met		
Asx			Phe		
Cys	1.00	Not Detected	Pro	1.00	1.03
Glx			Ser		
Gly			Thr		
His	2.00	2.05	Trp		
Ile	1.00	0.97	Tyr	1.00	0.98
Leu			Val		

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

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**Product Name:** Cys-T7 Peptide

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**Description:**

Cys-T7 Peptide is a targeting peptide for the transferrin receptor (N-term Cys), a protein abundantly expressed on endothelial cells, including those forming the blood-brain barrier (BBB). Cys-T7 Peptide facilitates receptor-mediated endocytosis and transcytosis, making it an ideal targeting agent for drug delivery systems, such as lipid nanoparticles (LNPs), across biological barriers. N-term cys residue enables thiol-maleimide-based conjugation to DSPE-PEG 2000 Maleimide (Cat. No. 7947) commonly used to synthesize LNPs.

**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>44</sub>H<sub>65</sub>N<sub>15</sub>O<sub>10</sub>S

Batch Molecular Weight: 996.15

Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Cys-His-Ala-Ile-Tyr-Pro-Arg-His

**Storage:** Store at -20°C

**Solubility & Usage Info:**

Soluble to 2 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:**

**Han et al** (2025) Peptide-functionalized lipid nanoparticles for targeted systemic mRNA delivery to the brain. *Nano Lett* **25** 800. PMID: 39688915.

**Han et al** (2011) Plasmid pORF-hTRAIL and doxorubicin co-delivery targeting to tumor using peptide-conjugated polyamidoamine dendrimer. *Biomaterials* **32** 1242. PMID: 20971503.

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