Certificate of Analysis

ILS Laboratories
8222 Vickers St, Suite 106, San Diego, CA 92111
(619) 329-3999 | ils-lab.com

TB-500 5mg - 5mg

7X TESTED

PASS

Tested for: Optima Supply

COA #:	**COA-2026-957676**	Analysis Date:	**10/28/2026**
Lot Number:	**OS-2026-9305**	Appearance:	**Good**
Accession #:	**ACC-2026-23777**	Sample Matrix:	**Lyophilized**
Labeled Content:	**5mg**	Date Received:	**10/22/2026**

Method: **Full QC Panel**

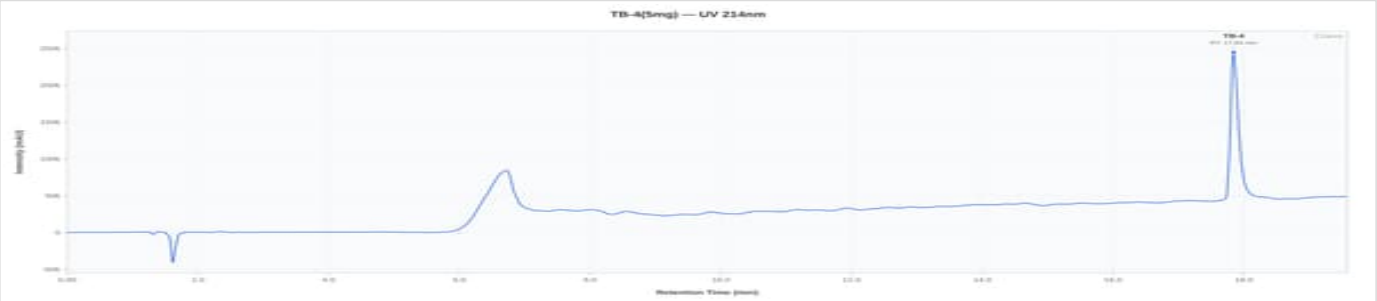
Scan to verify authenticity at ils-lab.com
Access Code: 6JQG9NUG

Identity	Peptide Purity	
TB-500 5mg	**99.22%**	Fentanyl Free

Full QC Panel

Analyte	Specification	Result	Unit	Status
Peptide Purity (HPLC)	>= 95.0%	**99.22%**	%	**PASS**
Net Peptide Content	Report Only	**5.1**	mg	N/A
Identity (HPLC-RTM)	TB-4	**Confirmed**	-	**PASS**
Fentanyl Screen	Immunoassay, 50 ng/mL cutoff	**Not Detected**	-	**PASS**

HPLC Chromatogram



TB-500 5mg 5mg - OS-2026-9305: UV Chromatogram

Heavy Metals Analysis (ICP-MS)

Test	Specification	Result	Status
Arsenic (As)	NMT 1.5 ppm	*Not Detected*	**PASS**
Cadmium (Cd)	NMT 0.5 ppm	*Not Detected*	**PASS**
Lead (Pb)	NMT 1.0 ppm	*Not Detected*	**PASS**
Mercury (Hg)	NMT 1.5 ppm	*Not Detected*	**PASS**
Chromium (Cr)	NMT 10.0 ppm	*Not Detected*	**PASS**

Sterility Testing (PCR)

Test	Specification	Result	Status
Sterility (PCR)	No Growth	**No Growth**	**PASS**

Endotoxin Testing (USP <85>)

Test	Specification	Result	Status
Endotoxin (USP <85>)	NMT 0.25 EU/mL	**0.201 EU/mL**	**PASS**
Acceptance criteria: NMT 0.25 EU/mL per client specification.			

Certificate Change History — **ILS QA**

Revision 1 – reissued October 30, 2026
Certificate statement updated. Test results are unchanged. Supersedes the original issued 10/28/2026.

Notes & Methodology

1. Date Tested: 10/28/2026. Methods: Full QC Panel.
2. The sample was confirmed to be TB-500 5mg by HPLC. Identification by chromatographic retention time comparison with a reference standard.
3. Elemental impurities analyzed by ICP-MS per USP <233> methodology. Acceptance criteria are internal laboratory quality screening limits for research-use materials and do not represent evaluation against any specific pharmacopeial monograph or product specification.
4. Endotoxin tested per USP <85> kinetic chromogenic method. Acceptance criteria per client specification.
5. Peptide purity determined by RP-HPLC area normalization at 214 nm. Value represents the percentage of the target peptide relative to all peptide-related peaks. Non-peptide process-related impurities, if detected, are excluded from the calculation.
6. Quality System: ILS Laboratories operates an ISO/IEC 17025 quality management system. Peptide testing is performed for Research Use Only.
7. This certificate reports analytical results for the sample(s) submitted to ILS Laboratories for testing. All sample identifications, product names, brand names, lot/batch numbers, and labeled content are provided by the submitting party and have not been independently verified. Results reflect only the analytical testing of the specific sample(s) provided and do not constitute an evaluation or endorsement of the manufacturer's processes, quality systems, or overall production. ILS Laboratories makes no representations regarding the intended use, safety, efficacy, regulatory status, or intellectual property ownership of any materials tested.

ILS LABS

Issued by ILS Laboratories
(619) 329-3999
ils-lab.com

Dr. Greg Kalyuzhny
Lab Director
10/28/2026

COA #: **COA-2026-957676**
Access Code: **6JQG9NUG**
Verify: portal.ils-lab.com/verify/WF9-egUrmCFUlRtH
Issued: 10/28/2026

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This certificate relates only to the sample(s) tested.