



Title:

Certificate of Analysis (CoA)

Date: 3/9/2026
Date Tested: 3/7/2026
Customer: Peptides Optimized LLC
Testing material: Tirzepatide
Lot Number: TZ5648
BT Sample ID: 005000039184032
Labeled Peptide Content/Potency: 30 mg
Storage: R.T.
Visual Description: small clear vial: white sample, pink label, silver crimp, black plastic cap.
Labeled as: Tirzepatide
Manufacturer: N/A
Testing Purpose: FTIR and HPLC analysis for the identification, purity, potency and composition of a peptide product. It does not provide information on particulate matter, microbial contamination or presence of endotoxins.
(ABI-TEST 0012) test quantifies bacterial endotoxin levels to confirm that the product does not elicit pyrogenic reactions, maintaining patient safety and product integrity.



Test	Method	Specification	Result
General Appearance	USP <630>	white powder	white powder
Mass	USP <41>	As recorded	116 mg
FTIR Identification and Composition Analysis	USP <197A>	Sample spectrum should confirm the content of peptide via characteristic bands	FTIR sample spectrum confirms the presence of Tirzepatide with addition of excipient(s)/fillers.
HPLC Purity of Peptide Assay	USP <621>	Specifications: $\geq 98\%$	99.7 %
HPLC Potency Assay	USP <621>	Specifications: 90 – 110% of 30 mg	30.1 mg (100.3 %)
Peptide-to-Excipients Ratio	USP <1151>	Recommended ratios of (1:2) to (1:10) for (peptide: excipients)	30.1 : 85.9 mg (1:2.9)

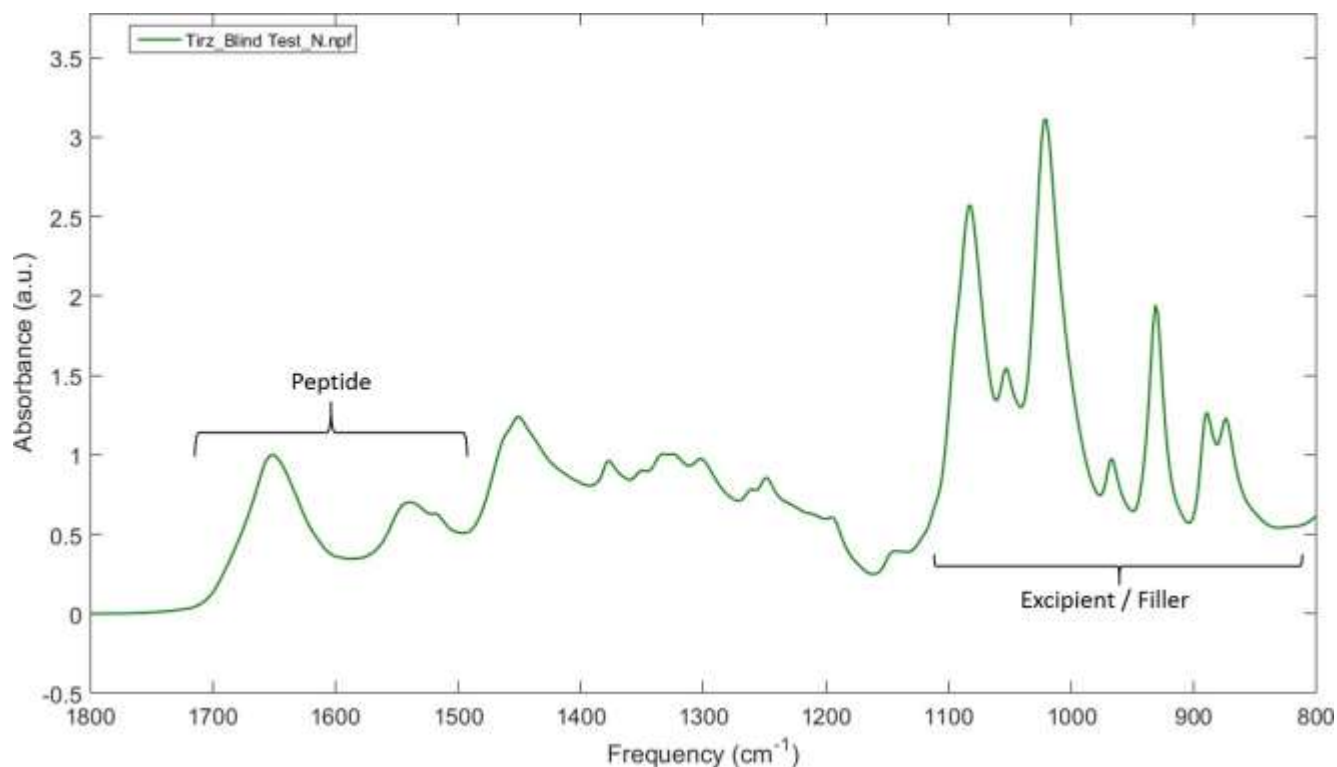
The results of the CoA relate only to the item(s) tested and applied to the sample as received.

Title:

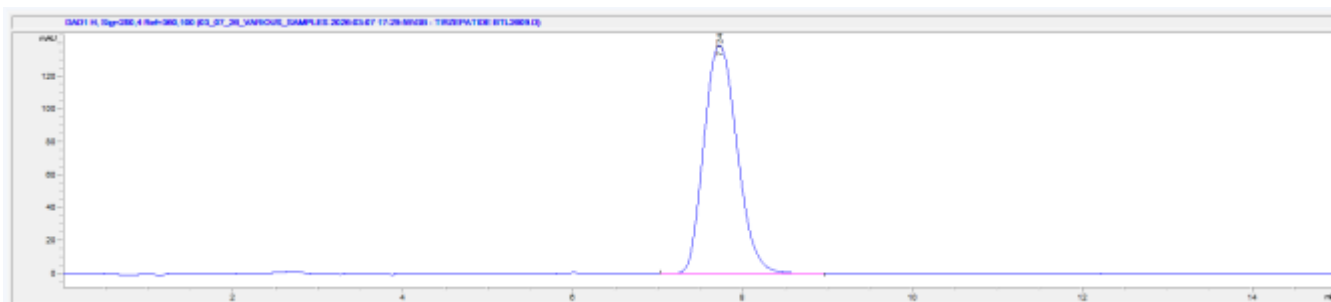
Certificate of Analysis (CoA)



FTIR ID and Composition Analysis: Tirzepatide Lot TZ5648



HPLC Purity and Potency Assay @ 280 nm: Tirzepatide Lot TZ5648



Tirzepatide Lot TZ5648 @ 280 nm		
Peak #:	Retention Time (min)	Area (mAU*s)
1	7.724	3788.9



COA #:
1558765

Page 3 of 3



Title:

Certificate of Analysis (CoA)

Test	Method	Specification	Result
Bacterial Endotoxins Test	USP <85>	40 EU/vial reconstituted	FAIL

The results of the CoA relate only to the item(s) tested and applied to the sample as received.

Bacterial Endotoxins Test Tirzepatide Lot TZ5648

Sample ID	Description	Volume (mL)	Endotoxin Limit (EU/vial)	Lysate Sensitivity (λ , EU/mL)	Result
TZ5648	Tirzepatide	3	40 EU/vial	0.25	42.8 EU/vial

The sample passed a valid gel clot endotoxin test based on the type, mode of administration and dosage.