

Note: COA located on Page 3

# Beyond Purity: Why Comprehensive Testing Matters

Peptidology products undergo rigorous testing to ensure they're safe for research use. While many understand the importance of product purity, less known but equally crucial are sterility and endotoxin testing. This document explains these testing methods and why they all matter for your safety.

## Understanding the Tests

### Purity Testing

Purity testing measures how much of the desired compound is present compared to other related substances. Using techniques like High-Performance Liquid Chromatography (HPLC), laboratories measure the "peak area percentage" to determine purity. A pharmaceutical with 99% purity means 99% of the substance contains the active ingredient, with 1% being related compounds. Purity above 95% is considered pharmaceutical grade.

### Assay Testing

While purity focuses on related substances, assay testing determines the exact amount of active ingredient by comparing it to a reference standard. This test confirms the correct dosage is present in your research peptides, ensuring effectiveness.

### USP 71 - Sterility Testing

USP 71 refers to the United States Pharmacopeia standard for sterility testing. This test verifies products are free from living microorganisms. Using either membrane filtration or direct inoculation methods, laboratories confirm no bacteria, fungi, or other organisms are present in products labeled "sterile".

### USP 85 - Bacterial Endotoxin Testing

Even when bacteria are killed during manufacturing, they can leave behind toxic fragments called endotoxins. USP 85 testing detects these fragments, which can cause serious reactions even in sterile products.

## The Limitations of Purity Testing Alone

While high purity is essential for pharmaceutical quality, it doesn't tell the complete safety story. A product can be 99.9% pure yet still contain dangerous contaminants:

1. Purity tests don't detect viable microorganisms that could cause infections
2. Purity analysis doesn't identify bacterial endotoxins, which remain toxic even after sterilization

## Why Sterility and Endotoxin Testing Are Critical

### Sterility Testing (USP 71)

If sterility testing isn't performed or fails:

- Patients could receive products contaminated with living microorganisms
- Infections ranging from mild to life-threatening could develop, especially in immunocompromised patients
- Multiple organ system failures could occur in severe cases

### Endotoxin Testing (USP 85)

If endotoxin testing isn't performed or fails:

- Human or animal models could experience fever, inflammation, and potentially septic shock
- Endotoxin levels as low as 0.5 EU/mL can trigger serious immune responses
- Effects can be particularly dangerous for children, elderly, or immunocompromised patients
- Even sterile products can cause harm if endotoxin levels are high

## The Complete Picture

The pharmaceutical industry uses a multi-layered approach to ensure safety.

Purity testing confirms the right ingredient is present, assay testing verifies the correct amount, sterility testing ensures no living organisms remain, and endotoxin testing confirms no toxic bacterial fragments are present. Only when all tests are passed can a product be considered truly safe. This comprehensive approach protects researchers from both visible and invisible threats, ensuring compounds are safe for research use.



Vanguard Laboratory  
2635 Parkmont Ln  
Olympia, Wa 98502  
360-967-7010

# Certificate of Analysis

Retatrutide 10 mg

Report To:

**Peptidology**

1111 N Scottsdale Rd STE 205

Scottsdale, AZ 85254

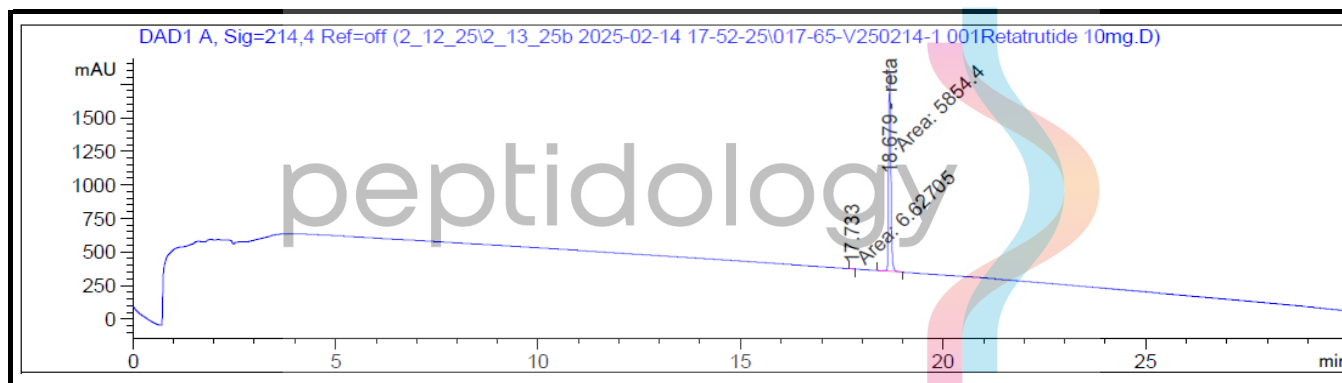
480-974-4660

Compound: Retatrutide

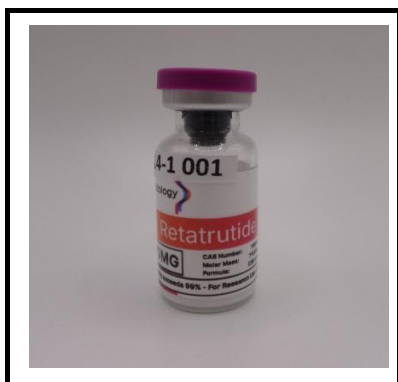
Amount: 10 mg

Laboratory ID: V250214-1 001

Date Reported: 2/24/2025



Analysis	Method	Result
Chromatographic Purity	HPLC-UV/VIS	>99.80% + 0.18%
Assay	HPLC-UV/VIS	9.96 mg



Report By: Dustin Newman, Laboratory Director on 2/24/2025

Approved By: Tori Johnson, Operations Manager on 2/24/2025



Please consult A2LA Certificate #6377.01.01 for a list of accredited tests. Samples were received in acceptable condition. The result(s) in this report relate only to the portion of the sample(s) tested. All analyses were performed consistent with the Vanguard Laboratory Quality Management System. Vanguard Laboratory and its staff did not observe or participate in the sample selection process, and cannot confirm the authenticity of the sample or its representativeness of the associated lot/batch.



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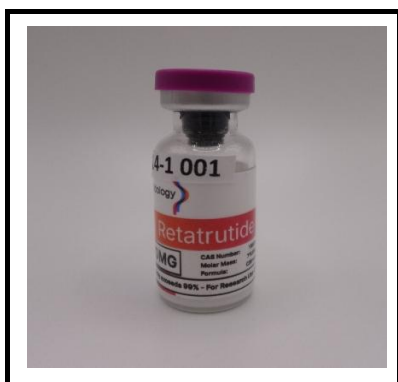
Amount: 10 mg

Laboratory ID: V250214-1 001

Date Reported: 2/24/2025

Analysis	Method	Result
Endotoxins	LAL	<0.05 EU/mL

peptidology



Report By: Dustin Newman, Laboratory Director on 2/24/2025

Approved By: Tori Johnson, Operations Manager on 2/24/2025

ND: Non-Detect

LOD: Limit of Quantification



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# Certificate of Analysis



Client:  
**Peptidology**

Laboratory:  
**TrustPointe Analytics LLC**  
1743 142nd Ave Suite 4  
Dorr, MI 49323



Key=FXNNFPUYRWH

## Sample Information

<b>Sample Name</b>	Reta 10mg	<b>Client SID</b>	Reta 10mg 120007	<b>Published</b>	2025-02-21 12:41
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## Results

<b>Sample ID</b>	SPL-0362
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USP <71> Sterility Test	Pass
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## Comments for SPL-0362

### General

Commercially prepared Tryptic Soy Broth (TSB): TSB 24-1, Lot: 33RJ69, Exp: 2025-08-10

Fluid Thioglycolate Medium (FTM): Lot: UK319487-349, Exp: 10-31-2025

## Approvals

Created by

A handwritten signature in black ink, appearing to read 'A. Lust'.

**Ashlee Lust**  
President

Reviewed by

A handwritten signature in black ink, appearing to read 'J. Lust'.

**Joshua Lust**  
Managing Director