



540 Division Street, Campbell, California 95008-6906  
 Tel. (408) 866-6363 Fax (408) 866-6364  
[www.listlabs.com](http://www.listlabs.com)

## Certificate of Testing

### Tetanus Toxoid from *Clostridium tetani*, Lyophilized in Buffer

Prod. No: 191A

Lot Number: 19133A8

Date of Manufacture 04 May 2026

**FOR RESEARCH PURPOSES ONLY.  
 NOT FOR HUMAN USE.**

#### Contents

Each container holds 25 µg of lyophilized tetanus toxoid. When reconstituted with 50 µL of water the protein is in 100 mM Histidine, 100 mM NaCl, pH 7.0 and 5% Trehalose.

#### Storage/Shipping Requirements

Store at 5 ± 3 °C. This product is provided as an aseptically packaged lyophilized powder, sealed under vacuum. Ship material at ambient temperature.

#### Handling

Good laboratory technique should be employed in the safe handling of this product. Wear appropriate laboratory attire including a lab coat, gloves and safety glasses.

The product is intended for research purposes by qualified personnel. It is not intended for use in humans or as a diagnostic agent. List Biological Laboratories, Inc. is not liable for any damages resulting from the misuse or handling of this product.

Attribute	Test Method ID / Version	Acceptance Criteria	Results	Pass / Fail
Appearance	Physical Appearance / ASSAY.063 v6.0	Before reconstitution: uniform white pellet free of foreign material. After reconstitution: clear, colorless, particulate free, complete dissolution	<b>Before reconstitution:</b> uniform white pellet free of foreign material. <b>After reconstitution:</b> clear, colorless, particulate free, complete dissolution	Pass
Purity	SDS-PAGE / GELS.018 v19.0	Reduced and Non-Reduced: Monomer at ~150 kDa. Report % of monomer for record. Monomer + polymers: ≥ 85%	<b>Reduced:</b> Monomer at ~150 kDa: 78% Monomer + polymers: 100% <b>Non-Reduced:</b> Monomer at ~150 kDa: 74% Monomer + polymers: 100%	Pass
	OD Measurement / ASSAY.060 v7.0	A <sub>280</sub> /A <sub>260</sub> ≥ 1.7 A <sub>320</sub> ≤ 0.1 Record vial content (µg) for record	A <sub>280</sub> /A <sub>260</sub> : 1.8 A <sub>320</sub> : 0.01 Vial content: 24.65 µg	Pass
	Endotoxin / ASSAY.092 v7.0	≤ 1,000 EU/mg	9.2 EU/mg	Pass
Identity	Immunodiffusion / ASSAY.019 v5.0	Lowest concentration of tetanus toxoid detected by antibodies: ≤0.0625 mg/mL	Lowest concentration of tetanus toxoid detected by antibodies: 0.0313 mg/mL	Pass



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Attribute	Test Method ID / Version	Acceptance Criteria	Results	Pass / Fail
Activity	Mouse Lethality	No death or illness at 15 µg per mouse (reported from bulk)	No death or illness at 15 µg per mouse (performed on bulk Lot #19133A)	Pass

Quality Control:

*[Signature]*

Date: 29 May 2016

Production:

*[Signature]*  
Ladell Christie

Date: 05/29/2016