

## **Epsilon recombinant toxin *Clostridium perfringens* Type D**

Benten Biotech SRL  
Parque Tecnológico- LATU.  
Montevideo, Uruguay  
CP 11500

**1. Reagent name:** Epsilon recombinant toxin *Clostridium perfringens* Type D (TCPDr)

**2. Strain or resource:** *E.coli*

**3. Lot number:** 002/23

**4. Fill date:** October 2023

**5. Expiration date:** The expiration date was not evaluated. According to the literature, the toxin is very stable and could be active for several years.

**Precautions: This reagent does not represent a risk for laboratory personnel working with the toxin if fundamental laboratory techniques are followed.**

**6. Intended to use:** Used as a standard toxin when evaluating *C. perfringens* D toxin in the neutralization test in mice.

**7. Instruction for use:**

Mouse assay: The L+ dose TCPDr 002/23 is 2,5 ug/mL and the Lo dose is 2 ug/mL considered the standard toxin concentration when conducting toxin-neutralization tests in mice .

**8. Reagent test:**

Determination of toxin titer- Doses Lo and L+ were established by injecting mice intravenously with 0.2 mL of a mixture of varying amounts of TCPDr 002/23 combined with 1 international unit (IU) of *C. perfringens* D antitoxin. Dose 1 Lo for the *C. perfringens* D antitoxin toxin neutralization test is the highest amount of toxin that can be mixed with 1 IU antitoxin and not cause death in injected mice within 72 hours. The 1 L + dose for the *C. perfringens* D antitoxin-toxin neutralization test is the minimum amount of toxin that can be mixed with 1 IU of *C. perfringens* D antitoxin and cause death in at least 80% of mice injected into the 72 hours.

Purity: >95%, by SDS-PAGE



1: Epsilon recombinant toxin *Clostridium perfringens* Type D (3ug/well).

*Sterility test:* For the *Clostridium perfringens* D recombinant toxin, the absence of viable bacteria and fungi was analyzed according to the procedures described in 113.26 9 CFR (USA).

**9. Container size, type, weight or volume:** One vial containing 0,5mL of recombinant toxin at 2.7 mg/mL.

**10. Storage conditions:** store at -80 °C.

**11. Technical contact Benten Biotech:** Quality Control Section, +59899178546.

**12. Origin and history of passage:** *E. coli*-derived *Clostridium perfringens* D (epsilon) toxin originated by DNA recombinant technology.

**13. Preparation method:** *Clostridium perfringens* D (epsilon) toxin (aminoacids 14 to 274) was produced in *E.coli* as a recombinant Thioredoxin fusion protein, with a C-terminal His-tag and avitag and purified by affinity chromatography.

**14. Other:** Transport according to UN3172 (Biological Toxins).



Reagent orders and feedback to the following email address:  
[info@bentenbiotech.com](mailto:info@bentenbiotech.com)

**REVISED:** October 2023