

## Native Clostridium Difficile Toxin B Ribotype 027

Cat. No. CLO-080 Lot. No. (See product label)

### SPECIFICATION

#### Product Overview

Clostridium difficile Toxin B ribotype 027 is a highly purified preparation of Toxin B from the hypervirulent ribotype 027 of Clostridium difficile (C. difficile). Developed for use in vaccine research, serology based assays and cytotoxicity testing. The product is presented in a choice of pack sizes and is lyophilised for ease of use.

#### Background

Clostridium difficile is a gram positive spore-forming anaerobic bacterium, which was first described in the mid-1930s. Recent studies have shown that C. difficile is predominantly associated with cases of infectious diarrhoea in patients that have been treated with antibiotics (antibiotic-associated diarrhoea AAD), or have disrupted commensal gastrointestinal flora. C. difficile infection can cause severe disease and death in a significant number of cases and is recognised as a leading cause of severe gastrointestinal disease and AAD in hospitalised patients (Voth, DE). The severity of the disease in each case is determined by the virulence of the C. difficile strain, the condition of the patient's normal gut flora and the individual's immune response to intestinal damage.

Toxins A and B have been identified as major C. difficile virulence factors, which are encoded by the tcdA and tcdB genes respectively. Both toxin A and toxin B have pro-inflammatory and cytotoxic activity, which cause disruption to the intestinal epithelium leading to extensive damage and cell death in the large intestine (Carter, GP).

In recent years, new hypervirulent strains of C. difficile, including ribotype 027 and 078, have emerged causing new epidemics of C. difficile in the developed world, and are a cause for significant concern within the global health care community (Ghose, C).

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|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purity</b>           | >95% by SDS-PAGE                                                                                                                                                                                                                                 |
| <b>Formulation</b>      | 0.05M hepes, 0.15M NaCl, 5% sucrose.                                                                                                                                                                                                             |
| <b>Stability</b>        | Lyophilised vial: 1 year after date of receipt.<br>Reconstituted liquid: 1 month                                                                                                                                                                 |
| <b>Freezing</b>         | Reconstituted liquid can be frozen at -80 centigrade to extend stability to 1 year; however every freeze/thaw cycle will cause increased aggregation. Avoid multiple freeze/thaw cycles and multiple temperature fluctuations.                   |
| <b>Storage</b>          | Lyophilised vial: +2 to +8 centigrade.<br>Reconstituted liquid: +2 to +8 centigrade.                                                                                                                                                             |
| <b>Notes</b>            | This product is intended for research and manufacturing uses only. It is not a diagnostic device. The user assumes all responsibility for care, custody and control of the material, including its disposal, in accordance with all regulations. |
| <b>Type</b>             | Native                                                                                                                                                                                                                                           |
| <b>ClassID 1</b>        | Infectious Disease                                                                                                                                                                                                                               |
| <b>GENE INFORMATION</b> |                                                                                                                                                                                                                                                  |
| <b>Synonyms</b>         | Clostridium Difficile Toxin B Ribotype 027                                                                                                                                                                                                       |