

Native Clostridium Difficile Toxoid B

Cat. No. CLO-083 Lot. No. (See product label)

SPECIFICATION

Product Overview

Clostridium difficile Toxoid B is a highly purified, non-toxic antigen preparation derived from Clostridium difficile Toxin B. It has been developed either for use as an immunogen to raise antibodies or for use in clinical diagnostic assays. Formaldehyde is used to convert toxin to toxoid and quality control data illustrates that this treatment has no significant effect on the antigenicity of the resultant preparation.

Background

Clostridium difficile (C. difficile) is a gram positive spore-forming anaerobic bacterium, which was first described in the mid-1930s and was later linked to cases of pseudomembranous colitis. C. difficile infection can cause a spectrum of diseases known collectively as C. difficile infections (CDI) that range from mild diarrhoea to pseudomembranous colitis and toxic megacolon, severe disease which may lead to death. Further studies have shown that C. difficile is predominantly associated with cases of infectious diarrhoea in patients that have been treated with antibiotics or have disrupted commensal gastrointestinal flora, and is recognised as a leading cause of severe gastrointestinal disease 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.

C. difficile spores are found in soil, human and animal faeces, and some processed meats and can be transmitted from one individual to another through contact with contaminated surfaces. 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 causes disruption to the intestinal epithelium leading to extensive damage and cell death in

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	the large intestine (Carter, GP).
Purity	>95% pure by SDS-PAGE
Inactivation	Inactivated using formaldehyde. No cell rounding in the sensitive verocytotoxicity assay at 2 µg/mL compared to active toxin lethal dose of 4 pg/mL.
Formulation	Contents when reconstituted in 250µl sterile distilled water will contain: Toxoid B at a concentration of 0.2 mg/mL in 0.05M Hepes, 0.15M NaCl and 5% sucrose.
Stability	Lyophilised vial: 1 year after date of receipt. Reconstituted liquid: 1 month
Freezing	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.
Storage	Lyophilised vial: +4 centigrade. Reconstituted liquid: +4 centigrade.
Shipping	Ambient
Type	Native
ClassID 1	Infectious Disease
GENE INFORMATION	
Synonyms	Clostridium Difficile Toxoid B