10320 Camino Santa Fe, Suite A
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Clostridium difficile Toxin B Polyclonal Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP54330

Specification

Clostridium difficile Toxin B Polyclonal Antibody - Product Information

Application	**IHC-P, IHC-F, IF, ICC, E**
Primary Accession	P18177
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**260 KDa**
Physical State	**Liquid**
Immunogen	**KLH conjugated synthetic peptide derived from human Clostridium difficile Toxin B**
Epitope Specificity	**301-400/2367**
Isotype	**IgG**
Purity affinity purified by Protein A	
Buffer	**0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.**
SUBCELLULAR LOCATION	**Secreted.**
Important Note	**This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.**

Background Descriptions
Clostridium difficile Toxin B (tcdB or ToxB) is a glucosyltranferase which is known to innactivate Rho, Cdc42 and Rac within target cells. This toxin is encoded on a pathogenicity region of the C. difficile chromossome and is expressed during the log and stationary phases of growth in response to a variety of environmental stimuli.

Clostridium difficile Toxin B Polyclonal Antibody - Additional Information

Other Names
Toxin B, 3.4.22.-, Glucosyltransferase TcdB, 2.4.1.-, tcdB {ECO:0000303|PubMed:24958798}

Dilution
IHC-P~~N/A<br \>IHC-F~~N/A<br \>IF~~1:50~200<br \>ICC~~N/A<br \>E~~N/A

Storage
Store at -20 ℃ for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 ℃.

Clostridium difficile Toxin B Polyclonal Antibody - Protein Information

Name tcdB {ECO:0000303|PubMed:24958798}

Function
[Toxin B]: Precursor of a cytotoxin that targets and disrupts the colonic epithelium, inducing the host inflammatory and innate immune responses and resulting in diarrhea and pseudomembranous colitis (PubMed:20844489, PubMed:24919149). TcdB constitutes the main toxin that mediates the pathology of C.difficile infection, an opportunistic pathogen that colonizes the colon when the normal gut microbiome is disrupted (PubMed:19252482, PubMed:20844489). Compared to TcdA, TcdB is more virulent and more important for inducing the host inflammatory and innate immune responses (PubMed:19252482, PubMed:24919149). This form constitutes the precursor of the toxin: it enters into host cells and mediates autoprocessing to release the active toxin (Glucosyltransferase TcdB) into the host cytosol (PubMed:10768933, PubMed:11152463, PubMed:12941936, PubMed:17334356, PubMed:20498856). Targets colonic epithelia by binding to the frizzled receptors FZD1, FZD2 and FZD7, and enters host cells via clathrin-mediated endocytosis (PubMed:27680706). Frizzled receptors constitute the major host receptors in the colonic epithelium, but other receptors, such as CSPG4 or NECTIN3/PVRL3, have been identified (PubMed:25547119, PubMed:26038560, PubMed:27680706). Binding to carbohydrates and sulfated glycosaminoglycans on host cell surface also contribute to entry into cells (By similarity). Once entered into host cells, acidification in the endosome promotes the membrane insertion of the translocation region and formation of a pore, leading to translocation of the GT44 and peptidase C80 domains across the endosomal membrane (PubMed:11152463, PubMed:12941936, PubMed:24567384). This activates the peptidase C80 domain and autocatalytic processing, releasing the N- terminal part (Glucosyltransferase TcdB), which constitutes the active part of the toxin, in the cytosol (PubMed:17334356, PubMed:27571750).

Cellular Location
[Toxin B]: Secreted. Host endosome membrane Note=Secreted from C.difficile cell into the extracellular environment via help of holin-like protein TcdE/UtxA (PubMed:22685398). Binds to the cell surface receptors via the receptor-binding region and enters the cells via clathrin-mediated endocytosis (PubMed:20498856) Acidification in the endosome triggers conformational changes that promote the membrane insertion of the translocation region, allowing formation of a pore, leading to translocation of the GT44 and peptidase C80 domains across the endosomal membrane (PubMed:10768933, PubMed:11152463, PubMed:12941936).
1D-myo-inositol hexakisphosphate- binding (InsP6) activates the peptidase C80 domain and autoprocessing, generating the Glucosyltransferase TcdB form, which is released in the host cytosol (PubMed:17334356).

Clostridium difficile Toxin B Polyclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Clostridium difficile Toxin B Polyclonal Antibody - Images