



## Clostridium difficile Antigen Rapid Test

### Background

Clostridium difficile is an anaerobic bacterium that caused diarrhea and colitis. Anyone can be affected while most cases occur when people taking antibiotics or not long after finished taking antibiotics. C.difficile is also a threat to horses, some time mixed infection with Clostridium perfringens.

Typical symptoms are diarrhea, stomach pain, loss of appetite, nausea and even severe intestinal inflammation after been taking antibiotics. In some cases, pseudomembranous colitis might be developed, which would increase the mortality rate significantly. C.difficile can generate two types of toxins, toxin A and toxin B. Usually, toxin A-negative, B-positive strains cause disease. To detect the C.difficile, combo tests of Toxin A&B are commonly developed. However, the toxins are very unstable and easily degraded in hours at room temperature and can cause false negative result. Thus, before running the toxin testing, a rapid test on C.difficile glutamate dehydrogenase (GDH) antigen should be carried as a combination.

### Applications

As a status monitor for abdominal surgical patients

For horses with diarrhea issues

As healthcare facilities for the elders

For people with weakened immune systems such as HIV/AIDS patients as regular standby

For people taking antibiotics for more than a week



#### Sensitivity

89.92%~98.23%

#### Specificity

97.24%~99.80%

#### Accuracy

96.16%~99.06%



## Clostridium perfringens Antigen Test

### Background

Clostridium perfringens is an anaerobic, Gram-positive bacterium that widely exists in the soil sewage, food, feces, and gastrointestinal tract of humans and animals. It is one of the most common and important pathogens to human and animals. C. perfringens can generate a series of potent toxins which cause to antibiotic-associated diarrhea, traumatic gas gangrene, and necrotic enteritis to human and animals. The spores of C.perfringens is stable in meat and can be transformed into active bacteria at a unsafe temperature. The consumption of such food like beef and chicken may cause diarrhea even an outbreak.

There are 5 genotypes of C.perfringens identified which are type A, B, C, D, E and produce one or more of four major toxins (alpha, beta, epsilon, and iota). Different genotypes can generate different toxins but all genotypes can generate alpha toxin. The alpha toxin is associated with traumatic gas gangrene, necrotic enteritis, colitis and diarrhea in animals. We have designed a rapid test against the alpha toxin of C.perfringens, to cover as many genotypes as possible.



### Applications

- To differential diagnose calves diarrhea in a breeding ground
- For riding club as a regular standby
- For sheep pasture as a regular standby
- For regular inspection in broiler
- For people who takes antibiotics more than a

 Quick detection

 Convenient storage

 Easy to operate

