International Clostridium difficile animal strain collection and large diversity of animal associated strains

**Background:** Clostridium difficile is an important cause of intestinal infections in some animal species and animals might be a reservoir for community associated human infections. Here we describe a collection of animal associated C. difficile strains from 12 countries based on inclusion criteria of one strain (PCR ribotype) per animal species per laboratory.

**Results:** Altogether 112 isolates were collected and distributed into 38 PCR ribotypes with agarose based approach and 50 PCR ribotypes with sequencer based approach. Four PCR ribotypes were most prevalent in terms of number of isolates as well as in terms of number of different host species: 078 (14.3% of isolates; 4 hosts), 014/020 (11.6%; 8 hosts); 002 (5.4%; 4 hosts) and 012 (5.4%; 5 hosts). Two animal hosts were best represented: cattle with 31 isolates (20 PCR ribotypes; 7 countries) and pigs with 31 isolates (16 PCR ribotypes; 10 countries). Conclusions: This results show that although PCR ribotype 078 is often reported as the major animal C. difficile type, especially in pigs, the variability of strains in pigs and other animal hosts is substantial. Most common human PCR ribotypes (014/020 and 002) are also among most prevalent animal associated C. difficile strains worldwide. The widespread dissemination of toxigenic C. difficile and the considerable overlap in strain distribution between species furthers concerns about interspecies, including zoonotic, transmission of this critically important pathogen.

**General information**

State: Published
Organisations: National Veterinary Institute, Section for Bacteriology, Pathology and Parasitology
Publication date: 2014
Peer-reviewed: Yes

**Publication information**

Journal: BMC Microbiology
Volume: 14
Issue number: 173
ISSN (Print): 1471-2180
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Scopus rating (2017): CiteScore 2.95 SJR 1.242 SNIP 0.953
Web of Science (2017): Impact factor 2.829
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 2.82 SJR 1.282 SNIP 0.993
Web of Science (2016): Impact factor 2.644
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 2.93 SJR 1.42 SNIP 0.994
Web of Science (2015): Impact factor 2.581
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 2.95 SJR 1.519 SNIP 1.069
Web of Science (2014): Impact factor 2.729
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 3.32 SJR 1.571 SNIP 1.179
Web of Science (2013): Impact factor 2.976
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 3.38 SJR 1.507 SNIP 1.146
Web of Science (2012): Impact factor 3.104
ISI indexed (2012): ISI indexed yes