他誌発表論文　（国内）

Comparison of bacterial DNA extraction methods using human fecal samples contaminated with *Clostridium perfringens*, *Staphylococcus aureus*, *Salmonella* Typhimurium, and *Campylobacter jejuni*.

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In this study, 2 methods of DNA extraction were evaluated for use in conjunction with the screening system Rapid Foodborne Bacterial Screening 24 (RFBS24), which employs multiplex real-time SYBR Green polymerase chain reaction (SG-PCR) and can simultaneously detect 24 target genes of foodborne pathogens in fecal DNA samples. The QIAamp DNA Stool mini kit (Qkit) and Ultra Clean Fecal DNA Isolation Kit (Ukit) were used for bacterial DNA extraction from fecal samples artificially inoculated with *Clostridium perfringens*, *Staphylococcus aureus*, *Salmonella* Typhimurium, and *Campylobacter jejuni*. SG-PCR and simplex real-time quantitative PCR (S-qPCR) analyses revealed higher copy numbers (8–234 times) of DNA in samples obtained using Ukit compared with those obtained using Qkit, resulting in lower cycle threshold values for the Ukit samples of the 4 bacteria on SG-PCR analysis. Fecal DNA samples from patients infected during foodborne outbreaks of *Salmonella* and *Campylobacter* were also prepared by Qkit and Ukit methods and subjected to RFBS24 analyses. Higher numbers of RFBS24 bacterial target genes were detected in DNA samples obtained using Ukit compared with those obtained using Qkit. Thus, the higher DNA extraction efficiency of the Ukit method compared with Qkit renders the former more useful in achieving improved detection rates of these 4 bacteria in fecal samples using SG-PCR.