Light Upon eXtension Fluorogenic Primer を使ったリアルタイム PCR 法による食品増菌液からの *Campylobacter jejuni/coli* の検出

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The Light Upon eXtension fluorogenic (LUX) primers were designed to detect the *hip* gene specific for *Campylobacter jejuni*, the *glyA* gene specific for *C. coli*, and the *glyA* gene specific for both *C. jejuni* and *C. coli*. The real-time quantitative PCR assay using LUX primer (LUX-qPCR) was performed with the primer sets of J-hip-FU/RL for detection of *C. jejuni*, CglyA-FU/RL for detection of *C. coli*, and JC-glyA-FL/RU for detection of *C. jejuni/coli*.Those LUX primers were specific for *C. jejuni*, *C. coli*, and *C. jejuni/coli*, respectively; the detection limit of the LUX-qPCR was 2,200 to 3,800 CFU/ml (11 to 19 CFU/reaction mixture) and coefficient (r^2) for the correlation between amount of DNA and Ct value was calculated to be more than 0.99. The multiplex LUX-qPCR with J-hip-FU/RL and C-glyA-FU/RL allowed simultaneous detection and differentiation of *C. jejuni* and *C. coli*. The LUX-qPCR and the multiplex LUX-qPCR were carried out in food after enrichment culture and compared to the cultural method. The results between these LUX-qPCR assays and the cultural method were mostly corresponding: *C. jejuni/coli* strains were isolated from most of the enrichment cultures which were PCR-positive and not isolated from all of the cultures which were PCR-negative, however the bacteria were not isolated from part of cultures which were PCR-positive. These rapid and sensitive LUX-qPCR assays provide useful tools for specific screening test of *C. jejuni/coli* in food after enrichment culture and rapid identification of *Campylobacter* isolate.