

Title Characteristics of cytotoxic necrotizing factor and cytolethal distending toxin producing *Escherichia coli* strains isolated from meat samples in Northern Ireland

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### **Abstract**

Swabs collected from pig, lamb and beef carcasses and samples of pork, lamb and beef mince were cultured for *Escherichia coli* strains. Strains harbouring cytotoxic necrotizing factors (CNF1 and 2) and cytolethal distending toxins (CDT-I,-II,-III and -IV) were identified in plate cultures of the isolates by colony hybridization with labelled probes and multiplex PCR assays. Simplex and multiplex PCR assays were used to further characterize the isolates to determine the presence of P, S and F17 fimbriae as well as afimbrial adhesins and haemolysin. The serotype was also determined where possible. Thirty strains with the capacity to code for CNF (4), CDT (24) or both (2) were isolated and characterized, and a wide range of associated factor patterns was observed. The methods utilized were successful in demonstrating the detection of viable strains with potentially significant pathogenic factors from human food sources.