

# A new multiplex PCR for differential identification of *Shigella flexneri* and *Shigella sonnei* and detection of *Shigella* virulence determinants

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Most of the multiplex PCR (mPCR) used to identify *Shigella* do not discriminate between *Shigella* species or serotypes. We designed a mPCR to differentiate between *S. flexneri* and *S. sonnei* strains based on the detection of markers associated with the *she* pathogenicity island described in *Shigella*. In addition, specific primers were included to detect the *Shigella* virulence determinants *ShET-1* and *ShET-2* enterotoxin genes. The analysis of 304 *Shigella* strains from Chile and 79 *Shigella* strains from other geographic locations indicated that the mPCR described here detected all *Shigella* species and specifically differentiated *S. flexneri* and *S. sonnei*. The technique was sensitive, reproducible, specific and simple to perform, providing a new tool with the potential to be employed for epidemiological and diagnostic purposes. © 2009 Cambridge University Press.