Antimicrobial susceptibility and occurrence of resistance genes among Salmonella enterica serovar Weltevreden from different countries - DTU Orbit (24/12/2018)

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Objectives: This study was conducted to investigate the occurrence of antimicrobial resistance among Salmonella Weltevreden isolates from different sources in South-East Asia (Indonesia, Laos, Malaysia, Taiwan, Thailand, Vietnam), Australia, Denmark, New Zealand and the USA. Methods: A total of 503 isolates were examined for susceptibility to antimicrobial agents, and resistant isolates were examined for the presence of selected resistance genes by PCR. Results: Only 48 (9.5%) of the isolates were resistant to one or more of the antimicrobial agents tested. A low frequency of resistance was found towards ampicillin (1.8%), chloramphenicol (1.6%), florphenicol (0.4%), nalidixic acid (1.6%), neomycin (0.6%), streptomycin (4.4%), sulfamethoxazole (4.2%), tetracycline (4.0%) and trimethoprim (1.4%), whereas all isolates were susceptible to co-amoxiclav, ceftiofur, ciprofloxacin, colistin and gentamicin. All nine ampicillin-resistant isolates contained a sequence similar to the bla(TEM-1b) gene, one of the eight chloramphenicol-resistant isolates contained a sequence similar to the catA1 gene, all three neomycin-resistant isolates contained a sequence similar to the aphA-2 gene, 16 (73%) of the 22 streptomycin-resistant isolates contained a sequence similar to the aadA gene, the remaining six (27%) contained a sequence similar to the strA gene, and all 21 sulfamethoxazole-resistant isolates contained a sequence similar to the sul2 gene. Thirteen (65%) of the 20 tetracycline-resistant isolates contained the tet(A) gene, four (20%) the tet(B) gene, and one (5%) the tet
Web of Science (2012): Impact factor 5.338
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 4.24 SJR 2.341 SNIP 1.769
Web of Science (2011): Impact factor 5.068
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 2.161 SNIP 1.643
Web of Science (2010): Impact factor 4.659
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.902 SNIP 1.615
Web of Science (2009): Indexed yes
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 2.076 SNIP 1.506
Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 1.744 SNIP 1.509
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 1.771 SNIP 1.437
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 1.768 SNIP 1.5
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 1.435 SNIP 1.465
Web of Science (2004): Indexed yes
Scopus rating (2003): SJR 1.367 SNIP 1.338
Web of Science (2003): Indexed yes
Scopus rating (2002): SJR 1.4 SNIP 1.284
Scopus rating (2001): SJR 1.388 SNIP 1.232
Web of Science (2001): Indexed yes
Scopus rating (2000): SJR 1.113 SNIP 1.248
Web of Science (2000): Indexed yes
Scopus rating (1999): SJR 1.111 SNIP 1.388
Original language: English
Keywords: antimicrobial resistance, genes, South-East Asia, Salmonella Weltevreden
Source: orbit
Source-ID: 229736
Research output: Research - peer-review; Journal article – Annual report year: 2003