

## Pathogenic *Escherichia coli* in wild fish and intensive fish farming for human consumption

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Shigatoxigenic (STEC) and enteropathogenic (EPEC) *E. coli* are pathogens that stand out because of their zoonotic potential through the transmission of enteric diseases to humans. Moreover, the increased consumption of fish meat and the accuracy of molecular biology techniques, become researches related to the virulence genes in animal products a global need and trend. The study aims to analyze the frequency of STEC and EPEC and their virulence genes in fish and also determine the resistance profile antimicrobial. Were analyzed 472 fish samples collected in Sao Paulo, Brazil. DNA extraction and PCR screening were performed, aiming to detect the presence of *stx1*, *stx2* and *eae* genes. If positive for at least one of these genes, were isolated in Mac Conkey agar, and the PCR for detection of virulence genes were performed, investigating *bfp*, *ehxA*, *saa*, *iha*, *toxB*, *paa*, *efa1*, *lpfA*<sub>O113</sub>, *lpfA*<sub>O157/O1-141</sub>, *lpfA*<sub>O157/O1-154</sub>, and *astA*. For determination of antimicrobial susceptibility were tested 14 agents. Of the 373 samples analyzed from wild fish, one (6.06%) was positive; and of the 99 samples from fish farming, six (0.27%) were positive for STEC and EPEC. The virulence genes found were: *ehxA*, *saa*, *paa*, *efa1*, *lpfA*<sub>O113</sub> e *astA*. Twelve antimicrobials were not able to eliminate growth of the isolated from fish farming. The presence of these pathogens and their virulence genes show that fish can carry STEC and EPEC, affecting the health of human. The higher frequency of this pathogen in wild fish and the multi resistance of fish farming isolated show the indiscriminate use of antimicrobial agents as preventive, further aggravating the results found, because these animals can transmit these multi resistant pathogens, causing a problem in public health.

### Biography

Marita Vedovelli Cardozo is a Biologist and Master in Microbiology from Universidade Estadual Paulista (UNESP). Nowadays, she is a doctoral student at the same institution, and her work is focused in Microbiology with an emphasis on food safety, infectious diseases and public health.

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