

# DETERMINATION OF CARRIAGE RATE AND ANTIBIOTIC SENSITIVITY OF SALMONELLA IN CATS AND DOGS

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## THESIS ABSTRACT

The aim of the study was to determine the prevalence, risk factors, some virulence factors, serotypes and antimicrobial resistance profiles of *Salmonella* in domestic dogs and cats in Turkey, to evaluate the public health risk and to make a macroscopic comparison of LAB in *Salmonella*-positive and negative animals.

*Salmonella* prevalence was 5.73% (9/157) in dogs and 0.0% (0/191) in cats, of which 8 isolates were cultured by ISO method and 5 by FDA method. *S. Enteritidis* (n=4), *S. Kentucky* (n=3) and *S. Virchow* (n=2) serotypes were all positive for *invA* and *stx* virulence genes. MDR rate was 11.1% and the highest resistance was found for ciprofloxacin. MDR resistant *S. Virchow* and carbapenem resistant *S. Enteritidis* were detected.

## APPLICATION AREAS OF THE THESIS RESULTS

There is limited data on *Salmonella* carriage in dogs and cats in Turkey. This study showed that apparently healthy dogs are subclinical carriers of *Salmonella* and harbor serotypes that cause human salmonellosis. In particular, aminoglycosides, monobactam and polymyxin antibiotics may be useful in the treatment of most cases of salmonellosis in dogs. Among zoonotic bacterial species such as *Salmonella*, isolation of carbapenem-resistant *S. Enteritidis* is a major public health problem. It is also important that all isolates harbor the virulence genes analyzed. The fact that *Salmonella* positive dogs consumed raw chicken meat emphasizes the association of *Salmonella* with raw meat consumption.

## ACADEMIC ACTIVITIES

1. Yıldız, M., & Kahya Demirbilek, S. (2023). Investigation of prevalence and antimicrobial resistance of *Salmonella* in pet dogs and cats in Turkey. *Veterinary Medicine and Science*, vms31513. <https://doi.org/10.1002/vms3.1513>
2. Yıldız, M., & Demirbilek, S. K. (2023). Determination of *Salmonella* spp. prevalence and antibiotic resistance profiles in domestic animals. *Journal of Istanbul Veterinary Sciences*, 153-153. <https://doi.org/10.2139/ssrn.4441458>



## KEY WORDS

- ✓ *Salmonella* serotypes
- ✓ Antimicrobial resistance
- ✓ Lactic acid bacteria
- ✓ Virulence factors

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