



Supplementary Material

Serotypes Diversity, Virulence, and Antimicrobial Resistance of Non-Typhoidal *Salmonella* Isolates in Commercial and Backyard Egg Production Systems in Egypt

Walid Elmonir^{1*}, Dalia Abdeltawab¹, Hanem El-Sharkawy² and Rasha N. Zahran³

¹Department of Hygiene and Preventive Medicine (Zoonoses), Faculty of Veterinary Medicine, Kafrelsheikh University, Kafrelsheikh, Egypt.

²Department of Poultry and Rabbit Diseases, Faculty of Veterinary Medicine, Kafrelsheikh University, Kafrelsheikh, Egypt.

³Department of Bacteriology, Mycology and Immunology, Faculty of Veterinary Medicine, University of Sadat City, Sadat, Egypt.

Supplementary Table I. The primers used in this study.

Target gene	Oligonucleotide sequence (5' - 3')	Product size (bp)	References
<i>invA</i>	F: GCTGCGCGCAACGGCGAAG R: TCC CGG CAG AGT TCC CAT T	389	(Cocolin <i>et al.</i> 1998)
<i>sopA</i>	F: TGGACTGAGAACGCTGTGGA R: GTGGGCCAGTACGCTTACCA	207	(Elabed <i>et al.</i> 2016)
<i>stn</i>	F: CTTTGGTCGTAAAATAAGGCG R: TGCCCAAAGCAGAGAGATTC	260	(Makino <i>et al.</i> 1999)
<i>hila</i>	F: CTGCCGCAGTGTTAAGGATA R: CTGTCGCCTTAATCGCATGT	497	(Guo <i>et al.</i> 2000)
<i>fimH</i>	F: GGATCCATGAAAATATACTC R: AAGCTTTTAATCATAATCGACTC	1008	(Taddele <i>et al.</i> 2011)

REFERENCES

Cocolin, L., Manzano M., Cantoni, C. and Comi, G., 1998. Use of polymerase chain reaction and restriction enzyme analysis to directly detect and identify *Salmonella typhimurium* in food. *J. appl. Microbiol.*, **85**: 673-677.

Elabed, H., Merghni, A., Hamza, R., Bakhrouf, A., and Gaddour, K., 2016. Molecular analysis of the adaptive response in *Salmonella Typhimurium* after starvation in salty conditions. *J. Infect. Dev. Countr.*, **10**: 74-81.

Guo, X., Chen, J., Beuchat, L.R., and Brackett, R.E., 2000. PCR detection of salmonella entericaserotype monteideo in and on raw tomatoes using primers derived from hila. *Appl. environ. Microbiol.*, **66**: 5248-5252.

Makino, S.I., Kurazono, H., Chongsanguam, M., Hayashi, H., Cheun, H.I., Suzuki, S., and Shirahata, T., 1999. Establishment of the PCR system specific to *Salmonella* spp. and its application for the inspection of food and fecal samples. *J. Vet. Med. Sci.*, **61**: 1245-7.

Taddele, M.H., Rathore, R., Dhama, K., and Agarwal,

* Corresponding author: walid.elmonir@gmail.com
0030-9923/2024/0004-1799 \$ 9.00/0



Copyright 2024 by the authors. Licensee Zoological Society of Pakistan.

This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

R., 2011. Epidemiological characterization of *Salmonella gallinarum* isolates of poultry origin in India, employing two PCR based typing methods of RAPD-PCR and PCR-RFLP. *Asian J. Anim. Vet. Adv.*, **6**: 1037-1051.