

# Salmonella Newport

**Background:** *Salmonella enterica* subsp. *enterica* serovar Newport (antigenic formula 6,8,20:e,h:1,2 ) is a serovar of the O:8 (C<sub>2</sub>-C<sub>3</sub>) serogroup. This serovar is one of top ten *Salmonella* serovars associated with human salmonellosis in North America. According to the National Veterinary Services Laboratories (NVSL), *S. Newport* became one of the top ten most frequently identified *Salmonella* serotypes from U.S. cattle from July 1998 through June 1999. Other findings also show that multidrug-resistant *S. Newport* has recently been spreading on an epidemic scale in both humans and animals throughout the United States. Based on the sequence analyses of the integrons, these isolates contained *aadA*, which confers resistance to streptomycin, or *aadA* and *dhfr*, which confer resistance to trimethoprim-sulfamethoxazole. The persistent strain of *S. Newport* (REPJJP01) has been identified and linked to travel to Mexico, beef, and soft cheese.

**Animal reservoir:** *Salmonella* Newport was found in cattle, chicken, pig, horse, fish and goat.

**Geographical distribution:** Serovar Newport has been mainly found in North America, and Europe.

**Outbreaks:** Outbreaks have been associated with *S. Newport*.

| Year      | Location          | Associated Source                           | Number of Cases  |
|-----------|-------------------|---|--|
| 1995-1996 | US                | Alfalfa                                     | >133   |
| 1999      | US                | Mangoes                                     | 79   |
| 2002      | US: Multi-state   | Tomatoes                                    | 510  |
| 2002      | US: Multi-state   | Ground beef                                 | 47   |
| 2004      | US                | Lettuce                                     | 97   |
| 2005-2006 | US: Multi-state   | Raw tomatoes                                | 187  |
| 2006      | US                | Watermelon                                  | 20   |
| 2012      | US: Multi-state   | Cantaloupe                                  | <i>Salmonella</i> Typhimurium sickened 228; <i>Salmonella</i> Newport sickened 33 people |
| 2014      | US: Multi-state   | Cucumber                                    | 275  |
| 2016-2017 | US: Multi-state   | Ground beef                                 | 106  |
| 2017      | US: Multi-state   | Imported maradol papayas                    | 4 ( <i>Salmonella</i> Infantis was involved)   |
| 2018      | US: KS            | Tomatoes                                    | 14   |
| 2018      | US: Multi-state   | Frozen shredded coconut                     | 27 ( <i>Salmonella</i> l 4,[5],12:b:- was also involved)                                 |
| 2018      | France & Scotland | Raw goats' milk cheese                      | France: 147<br>Scotland: 6   |
| 2018-2019 | US: Multi-state   | Ground beef produced by JBS Tolleson, Inc   | 403  |
| 2019      | US: Multi-state   | Frozen, ground tuna from JK Fish of Vietnam | 13   |
| 2019      | US: Multi-state   | Tuna  | 15   |
| 2019      | US: Multi-state   | Pig ear treats for dogs                     | 93 (Three serovars were involved: Infantis, London, and Newport)                         |
| 2019      | Sweden            | Frozen crayfish from China                  | 33   |
| 2020      | US & Canada       | Red onions                                  | US: 1127<br>Canada: 515  |
| 2020      | France            | Raw or rare horse meat                      | 20   |
| 2021      | US                | Infant formula                              | 4 (3 of them were associated with <i>Cronobacter sakazakii</i> infections)               |
| 2021      | US: Multi-state   | Beef  | 75 (associated with REPJJP01)  |
| 2022      | US: Multi-state   | Beef  | 22 (associated with REPJJP01)  |

## Relevant links and references:

1. <https://www.fda.gov/food/outbreaks-foodborne-illness/factors-potentially-contributing-contamination-red-onions-implicated-summer-2020-outbreak-salmonella>
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3. <https://www.cdc.gov/salmonella/newport-07-20/index.html>
4. <https://www.fda.gov/food/outbreaks-foodborne-illness/outbreak-investigation-salmonella-newport-frozen-ground-tuna-april-2019>
5. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC309039/>
6. <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5125a1.htm>
7. <https://jamanetwork.com/journals/jama/article-abstract/193406>
8. <https://www.addl.purdue.edu/newsletters/2004/summer/salmnewp.htm>
9. <https://pubmed.ncbi.nlm.nih.gov/36382397/>
10. [https://www.cdc.gov/mmwr/volumes/67/wr/mm6715a2.htm#F1\\_down](https://www.cdc.gov/mmwr/volumes/67/wr/mm6715a2.htm#F1_down)

11. <https://www.cdc.gov/salmonella/newport-10-18/index.html>
12. <https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-and-animal-product-import-information/organisms-vectors/livestock-poultry-pathogens>
13. [https://www.fsis.usda.gov/sites/default/files/media\\_file/2022-06/Newport\\_AAR\\_20220519\\_cln.pdf](https://www.fsis.usda.gov/sites/default/files/media_file/2022-06/Newport_AAR_20220519_cln.pdf)
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15. <https://www.foodsafetynews.com/tag/salmonella-newport/>
16. <https://www.sciencedirect.com/science/article/abs/pii/S016816051830638X>
17. <https://www.sciencedirect.com/science/article/pii/S0362028X22086392#bb0210>
18. <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5635a3.htm>
19. <https://www.liebertpub.com/doi/pdf/10.1089/fpd.2008.0232>
20. <https://www.cdc.gov/salmonella/newport-09-17/index.html>
21. <https://www.cambridge.org/core/journals/epidemiology-and-infection/article/outbreak-of-salmonella-newport-associated-with-internationally-distributed-raw-goats-milk-cheese-france-2018/528E4E70FB25CDBB293627227740E39D>
22. <https://www.pritzkerlaw.com/personal-injury/2020/salmonella-newport-outbreaks-beef-papayas-melon-cucumbers-tuna-chia-powder-and-coconut/>
23. <https://www.cdc.gov/mmwr/volumes/72/wr/mm7245a3.htm>
24. <https://www.cdc.gov/ncezid/dfwed/outbreak-response/rep-strains/repjip01.html#:~:text=REPJJP01%20is%20a%20persistent%2C%20multidrug,to%20PulseNet%20in%20late%202015.>