

# Salmonella Saintpaul

**Background:** *Salmonella enterica* subsp. *enterica* serovar Saintpaul (antigenic formula 1,4,[5],12:e,h:1,2) is a serovar of the O:4 (B) serogroup. *S. Saintpaul* is a globally distributed serovar. Reports of *S. Saintpaul* have increased recently, these reports have found that [turkeys](#) and ground turkey are important sources of *S. Saintpaul*. In addition, in several countries, *S. Saintpaul* have caused large outbreaks associated with produce (e.g., [cucumbers](#), [alfalfa sprouts](#), [peppers](#)). In Germany, a clonal line with a multidrug resistant phenotype was found in turkeys and human feces. This strain showed resistance to -lactam antibiotics, aminoglycosides, nalidixic acid, and sulfamethoxazole, along with intermediate resistance to ciprofloxacin and third-generation cephalosporins.

**Animal reservoir:** *S. Saintpaul* is found in turkeys and swine.

**Geographical distribution:** This serovar is widely distributed. In the U.S. it ranks among the top 15 serovars causing human salmonellosis. In Oceania, this serovar is the fourth most common serovar in humans. In addition, *S. Saintpaul* is commonly reported in Europe and outbreaks have been linked to internationally imported food (e.g., from Mexico).

**Outbreaks:** Several outbreaks have been linked to *S. Saintpaul*; many of these outbreaks have caused disease in a very large number of patients.

Year	Location	Associated source	Number of cases
2016	<a href="#">US-Utah</a>	Raw milk	9
2016	<a href="#">Australia</a>	Mung bean sprouts	233
2013	US-multistate	Imported cucumber	84
2009	US-multistate	Raw alfalfa sprouts	235
2008	US-multistate & Canada	Raw produce (jalapeño and serrano peppers from Mexico)	1442
2005	Australia	Tap water	26
2006	Australia	Cantaloupe	115
1999	Australia	Drinking water	28
1993	Germany	Paprika & paprika-powdered potato chips (serovar Javiana and Rubislaw were also involved)	1000

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## Relevant links and references:

1. <http://www.cdc.gov/salmonella/saintpaul-04-13/index.html>
2. <http://www.cdc.gov/salmonella/saintpaul-alfalfa/index.html>
3. <http://www.cdc.gov/salmonella/saintpaul-jalapeno/index.html>
4. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2876473/>