

# Salmonella Hadar

**Background:** *Salmonella enterica* subsp. *enterica* serovar Hadar (antigenic formula 6,8:z10:e,n,x) is a serovar of the O:8 (C<sub>2</sub>-C<sub>3</sub>) serogroup. *S. Hadar* is a common serovar in the U.S. and Europe. Serovar Hadar is associated with turkey and other birds, and is commonly found in ground turkey and chicken meat. In Europe, this serovar emerged in 1971. In [England](#), before 1971, only eight human cases reported; by 1979 a total of 1,600 human salmonellosis cases were confirmed to be caused by *S. Hadar*. As a consequence of the *S. Hadar* emergence, a phage typing scheme was developed, this included 35 recognized phage types. In 2011, an outbreak associated with [turkey burgers](#) occurred in the U.S., the outbreak strain showed resistance to several antibiotics commonly used to treat salmonellosis (ampicillin, amoxicillin/clavulanate, cephalothin, and tetracycline).

**Animal reservoir:** The main reservoirs of *S. Hadar* are turkey flocks and turkey meat. However, chickens, ducks and swine are also sources of this serovar. In the U.S, this serovar is the most common serovar isolated from turkey.

**Geographical distribution:** *S. Hadar* has been isolated in the U.S., where it is among the top ten serovars from non-clinical non-human sources. In Europe, serovar Hadar is the 4<sup>th</sup> most common serovar isolated from humans. In two countries of Asia, Thailand and China, this serovar has also been reported. In Thailand, serovar Hadar was reported in food (chicken and duck meat). Reports of acquisition of *S. Hadar* in travelers returning from Africa suggest a distribution of this serovar in Africa.

**Outbreaks:** Outbreaks of *Salmonella Hadar* have been identified in the U.S. and Europe, one large outbreak with > 2,000 cases was reported in Spain.

Year	Location	Associated source	Number of cases
2012	US-multistate	Live poultry	46
2011	US-multistate	Turkey burgers	12
2005	Spain	Pre-cooked chicken	2138
1997	Italy	Roasted rabbit	24
1994	Italy	Meat salad	448

-

## Relevant links and references:

1. <http://www.cdc.gov/salmonella/hadar-live-poultry-07-12/index.html>
2. <http://www.cdc.gov/salmonella/hadar0411/040411/index.html>
3. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1601188/pdf/brmedj00016-0007.pdf>