

Salmonella Serotyping in Nebraska, 2001.

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The CDC estimates that from 1 to 4 million cases of salmonellosis occur each year in the U.S. with approximately 500 deaths. About 40,000 of these infections are confirmed by culture, with most isolates serotyped at state public health laboratories. The CDC tests about 1,000 problem isolates that are sent from the state public health labs each year for serotyping.

Currently, the CDC recognizes two species of *Salmonella*, *S. enterica* and *S. bongori*. *S. bongori* contains 18 serovars, and *S. enterica* contains the remaining 2300+ serovars, which are divided among 6 subspecies. The salmonellae are first classified by serogrouping based on their somatic (O) antigens, and then serotyped based on the flagellar (H) antigens present. To date, there are 2,435 serovars described by the CDC, with 20 to 35 new serotypes described each year by the World Health Organization (WHO). To serotype the salmonellae requires the availability of more than 250 O and H grouping, typing and single factor antisera. The CDC maintains an inventory of the O and H antisera needed to serotype the 100 most common isolates found in the U.S., and these reagents are available for the state public health laboratories to use.

Salmonella serotyping at the NPHL for 2001 included 16 different hospital and private laboratories throughout the state, that submitted 149 isolates (Table 1.) The top six serotypes identified in 2001 are listed in Table 2. Personnel from the NPHL have begun collaborating with the CDC to develop new molecular methods to serotype *Salmonella* which will increase accuracy and throughput in the future.

Laboratory	Number	Location
Alegent Health	1	Omaha
Bergen Mercy Hospital	13	Omaha
Children's Hospital	7	Omaha
Fremont Area Medical Center	4	Fremont
Good Samaritan Hospital	4	Kearney
Great Plains Medical Center	9	North Platte
Methodist Hospital	11	Omaha
NHS	12	Omaha
Ehrling Berquist	1	Bellevue
Pathology Center	12	Omaha
Physicians Laboratory	16	Omaha
Quest	27	Lincoln
Regional West Medical Center	10	Scottsbluff
Shenandoah, Iowa	1	Shenandoah
St. Francis Medical Center	4	Grand Island
St Joseph's Hospital	7	Omaha

Serotype	Serogroup	Number
Typhimurium var. Copenhagen	B	29
Enteritidis	D	25
Heidelberg	B	12
Typhimurium	B	12
Newport	C2	10
Braenderup	C1	7