hospitalizations and 450 deaths. Because many milder cases are not diagnosed or reported, the actual number of infections may be twenty-nine or more times greater.

What are the symptoms of Salmonellosis?
- Diarrhea, fever, and abdominal cramps.
- They develop 12 to 72 hours after infection, and the illness usually lasts from 4 to 7 days.

What causes salmonellosis?
- Food contaminated with Salmonella may occur during food processing or food handling.
- Beef, poultry, milk, and eggs are the foods most prone to be infected with Salmonella, but vegetables may also be contaminated. However, contaminated foods usually look and smell normal.
- Pets may carry Salmonella bacteria in their intestines, so their feces are a potential concern. Certain pets, such as turtles, snakes and other reptiles, and chicken and other birds, are more likely to carry it.

FACTS & IDENTIFICATION
SALMONELLA SPP.

What is it?
- Salmonella is a rod-shaped, motile, on-spore-forming and Gram-negative bacterium. The Salmonella family includes over 2,300 serotypes of bacteria.
- For over 100 years, the bacteria have been known to cause illness. They were discovered by an American scientist named Salmon, after whom they are named.
- There are many different kinds of Salmonella bacteria. Salmonella serotype Typhimurium and Salmonella serotype Enteritidis are the most common.
- The bacteria grow optimally at 37°C and can catabolize D_glucose and other carbohydrates by producing acid and gas.
- It causes Salmonellosis. S. typhi and S. paratyphi A, B, and C produce typhoid and typhoid-like fever in humans.
- Salmonella is estimated to cause about 1.2 million illnesses in the United States, with about
Hospitalizations and 450 deaths. Because many milder cases are not diagnosed or reported, the actual number of infections may be twenty-nine or more times greater.

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How can we prevent it?
- Avoid eating high-risk foods, including raw or lightly cooked eggs, undercooked ground beef or poultry, and unpasteurized milk.
- Keep food properly refrigerated before cooking.
- Wash your hands after contact with animals, their food or treats, or their living environment.

How can we identify it?
- A variety of culture and rapid methods are available for the detection of Salmonella Spp. in foods.
- The most commonly used culture reference method world-wide for the detection of Salmonella spp is UNE EN ISO 6579:2003 – This international regulation specifies a horizontal method for the detection of Salmonella, including Salmonella Typhi and Salmonella Paratyphi in food and animal stuff.

Safety
- Several countries follow the CDC/NIH biosafety recommendations indicated in "Biosafety in Microbiological and Biomedical Laboratories", 4th Edition, 1999 (ref. 4) which recommend Biosafety Level 2 practices for all Salmonella, except S. Typhi. For S. Typhi they recommend Biosafety Level 2 practices for activities with clinical materials and cultures; and Biosafety Level 3 practices for activities that can generate aerosols or for activities involving high volumes of organisms.

- Pre-enrichment - is the step where the sample is enriched in a non-selective nutrient medium, enabling the damaged Salmonella cells to be repaired, and achieving a stable physiological condition.
- Selective enrichment - is achieved by using a culture medium combining two conditions: on the one hand it will increase the Salmonella populations and, on the other, inhibit other microorganisms present in the sample.

Selective isolation - this point follows on directly from the above. Here selective media, which restrict the growth of types other than Salmonella and which allow the visual recognition of suspicious colonies, are used.

Confirmation - this step allows the generic identification of Salmonella cultures and the elimination of false suspicious cultures.
### Biochemical Profile

<table>
<thead>
<tr>
<th></th>
<th>S. Typhi</th>
<th>S. Paratyphi</th>
<th>S. Paratyphi B</th>
<th>S. Paratyphi C</th>
<th>Others</th>
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<td>TSI Glucose (acid formation)</td>
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### BIBLIOGRAPHY


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