Product Information

Anti-Salmonella Enterica Typhimurium

Antibody Produced in Rabbit, IgG Fraction of Antiserum

SAB4200862

Product Description

Anti-Salmonella enterica typhimurium antibody is developed in rabbits using inactivated *S. typhimurium* bacteria (ATCC 7823). Whole antiserum is purified using protein A immobilized on agarose to provide the IgG fraction of antiserum.

Anti-Salmonella enterica typhimurium antibody recognizes *S. enterica typhimurium* whole lysate of dead bacteria and *S. enterica typhimurium* Lipopolysaccharides (LPS), the antibody has no cross-reactivity with whole bacterial extracts of *E. coli K-12* and *E. faecalis*. The antibody may be used in various immunochemical techniques including immunoblotting and ELISA. Detection of the *S. typhimurium* bands by immunoblotting is specifically inhibited by the immunogen.

Salmonella is a genus of Gram-negative, facultative anaerobe, motile bacillus composed of 2579 different serotypes. *Salmonella* is considered to be one of the most studied microorganisms as a worldwide foodborne pathogen and a major cause of gastrointestinal human infections.[1] *S. enterica* is a subspecies of *S. enterica,* that includes 1531 serotypes, among them *S. typhimurium* and *S. enteritidis*, responsible for common human illness and thus focus of extensive research.[1]

S. typhimurium causes salmonellosis, that affects both human and animals, is the main cause of gastroenteritis in humans resulting in 93.8 million cases, with 155,000 deaths each year.[2] It infects different animals and can be found in various food types, mainly present in poultry, swine, and bovine meat.[3-5]

S. typhimurium can survive the acidic environment of the stomach through the activation of acid tolerance response (ATR), which maintains the intracellular pH higher than the extracellular pH.[6] Then, *S. typhimurium* penetrates the mucus barrier of the intestinal wall and adheres to the epithelium to initiate the infection, that may results in diarrhea, loss of electrolytes and local inflammation of the intestine.[7-9]

After *S. typhimurium* is being engulfed by enterocytes, it forms intracellular phagosomal compartments, termed *Salmonella*-Containing Vacuoles (SCV) where the bacterium is able to survive and multiply.[2,9]*S. typhimurium* has various virulence factors, most of them are encoded by genes located in the Salmonella Pathogenicity Islands (SPI).[10] *S. typhimurium* uses flagella for motility after ingestion[11] and then type I fimbrae[12] and adhesins to adhere to the epithelium. It expresses Type III Secretion System (T3SS) that enables the bacteria to inject into the host cells a variety of effector proteins such as, SipABCD, SptP, SpiC and SopB that alter cellular functions to promote bacterial invasion, survival and propagation.[2,13,14] Moreover, *S. typhimurium* is able to form resistant biofilms[15] that contribute to the establishment of chronic, "carrier state" infections. In addition, human specific *S. typhis* used as a model for the animal study of typhoid fever.[16]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a preservative.

Precautions and Disclaimer

For research use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting

A working dilution of 1:2000-1:4000 is recommended using *Salmonella enterica typhimurium* LPS.

Indirect ELISA

A working dilution of 1:2000-1: 4000 is recommended using whole *Salmonella enterica typhimurium* dead bacteria for coating.

Note: In order to obtain best results in different techniques and preparations it is recommended to determine optimal working concentration by titration test.

References

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