SANTA CRUZ BIOTECHNOLOGY, INC.

Salmonella typhimurium 0-4 (1E6): sc-52223

BACKGROUND

Salmonella typhimurium, a Gram-negative, facultatively anaerobic, flagellated member of the Enterobacteria family, is a potent a food-borne pathogen. It is the leading cause of a form of human gastroenteritis commonly referred to as Salmonellosis. Salmonellosis causes diarrhea, fever and abdominal cramps 12 to 72 hours after infection and may last for up to 7 days. *Salmonella typhimurium* is readily transmitted through the feces of people or animals. Lipopolysaccharide (LPS) is the result of the joining of a lipid and a polysaccharide (carbohydrate) by a covalent bond. LPS is a major component of the cell membrane of all Gram-negative bacteria, and it contributes greatly to the structural integrity of the bacteria, protecting the membrane from certain types of chemical attacks. LPS is an endotoxin, and induces a strong response from normal animal immune systems, causing many of the characteristic symptoms of the infection.

REFERENCES

1. Cash, M.T., et al. 2004. The reaction of indole with the aminoacrylate intermediate of *Salmonella typhimurium* tryptophan synthase: observation of a primary kinetic isotope effect with 3-[^{2}H]indole. Arch. Biochem. Biophys. 432: 233-243.
2. Komitopoulou, E., et al. 2004. Premature *Salmonella typhimurium* Gram-negative organisms is redox potential regulated via RpoS induction. J. Appl. Microbiol. 97: 964-972.
3. Lyons, S., et al. 2004. *Salmonella typhimurium* transcytoses flagellin via an SPI2-mediated vesicular transport pathway. J. Cell Sci. 117: 5771-5780.
4. Carnevalini, M., et al. 2005. Abdominal aortic mycotic aneurysm, psoas abscess and aorto-bisiliac graft infection due to *Salmonella typhimurium*. J. Infect. Chemother. 11: 297-299.
5. Oscar, T.P. 2005. Development and validation of primary, secondary and tertiary models for growth of *Salmonella typhimurium* on sterile chicken. J. Food Prot. 68: 2606-2613.
6. Prescott, J.F. 2005. *Salmonella typhimurium* veterinary clinic outbreak. Emerg. Infect. Dis. 11: 1989.

SOURCE

Salmonella typhimurium 0-4 (1E6) is a mouse monoclonal antibody raised against lipopolisaccharides of *Salmonella typhimurium* origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Salmonella typhimurium 0-4 (1E6) is recommended for detection of LPS of *S. typhimurium* origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

SELECT PRODUCT CITATIONS

1. Suo, Z., et al. 2009. Antibody selection for immobilizing living bacteria. Anal. Chem. 81: 7571-7578.
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3. van Wijk, S.J.L., et al. 2017. Linear ubiquitination of cytosolic *Salmonella typhimurium* activates NFκB and restricts bacterial proliferation. Nat. Microbiol. 2: 17066.
4. Gradzka, S., et al. 2018. Inhibitor of apoptosis proteins are required for effective fusion of autophagosomes with lysosomes. Cell Death Dis. 9: 529.
5. Losier, T.T., et al. 2019. AMPK promotes xenophagy through priming of autophagic kinases upon detection of bacterial outer membrane vesicles. Cell Rep. 26: 2150-2165.e5.
6. Brokatzky, D., et al. 2019. A non-death function of the mitochondrial apoptosis apparatus in immunity. EMBO J. 38: e100907.
7. Alsaadi, R.M., et al. 2019. ULK1-mediated phosphorylation of ATG16L1 promotes xenophagy, but destabilizes the ATG16L1 Crohn's mutant. EMBO Rep. 20: e46885.
8. Ebelt, N.D., et al. 2020. Hyaluronidase-expressing *Salmonella* effectively targets tumor-associated hyaluronic acid in pancreatic ductal adenocarcinoma. Mol. Cancer Ther. 19: 706-716.
9. Lawrence, A.E., et al. 2021. *Salmonella enterica* serovar typhimurium SPI-1 and SPI-2 shape the global transcriptional landscape in a human intestinal organoid model system. mBio 12: e00399-21.
10. Cobb, J., et al. 2021. Oral *Salmonella* msbB mutant as a carrier for a *Salmonella*-based vaccine for prevention and reversal of type 1 diabetes. Front. Immunol. 12: 667897.
11. Zhou, Y., et al. 2021. Thiol-based functional mimicry of phosphorylation of the two-component system response regulator ArcA promotes pathogenesis in enteric pathogens. Cell Rep. 37: 110147.
12. Zamloot, V., et al. 2022. Targeted depletion of hyaluronic acid mitigates murine breast cancer growth. Cancers 14: 4614.
13. Guo, X.K., et al. 2023. Interactions between host and intestinal crypt-resided biofilms are controlled by epithelial fucosylation. Cell Rep. 42: 112754.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.