

Anti- *Salmonella enteritidis* LPS antibody, mouse monoclonal (se-1)

64-018 100 µg

Shipping and Storage: Ship at 4C and store at -20C. Do not freeze

Immunogen: Crude extract of *Salmonella Enteritidis*

Specific Reactivity: Reacts with LPS of *Salmonella enteritidis* and *Salmonella typhimurium*. Does not react with other gram-negative food-poisoning bacteria like *E. coli*, *V. parahaemolyticus* and *Campylobacter* species.

Applications:

1. Western blotting (1/1,000~1/2,000)
2. ELISA (assay dependent)
3. Immunochromatography (assay dependent)

This antibody is used for detection of food-poisoning *Salmonella*.

Background: *Salmonella enterica* subsp. *enterica* serotype Enteritidis (SE) is one of the major causative agents of human gastroenteritis. *Salmonella enterica* subsp. *enterica* is classified into over 1500 serotypes based on antigenic differences in lipopolysaccharide (LPS) (O) and flagellar (H) antigens. LPS is a major component of the outer surface of gram-negative bacteria, composed of a hydrophobic lipid A, which anchors LPS to the membrane, a core oligosaccharide region, and an O-polysaccharide polymer (O-chain) composed of oligosaccharide-repeating units. While the LPS-core regions are relatively conserved among gram-negative organisms, there is a substantial difference in the composition of the O-chain repeating units, which leads to a large antigenic diversity in O-antigens.

Isotype: mouse IgG1

Product: 0.5 mg/ml in PBS, 50% glycerol, filter sterilized.

Purity: IgG, affinity-purified with Protein A

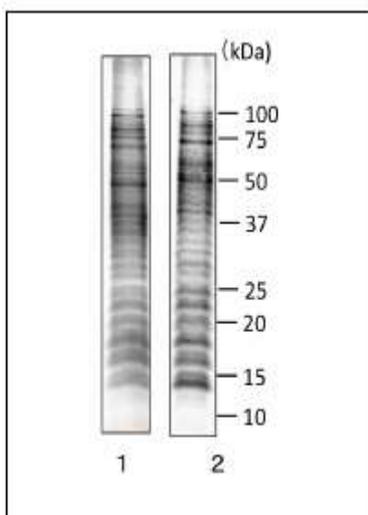


Fig.1. Western blotting of LPS from *S. Enteritidis* with MAb (se-01).

1. Crude extract of *S. Enteritidis* cells
2. Purified LPS of *S. Enteritidis* (Sigma-Aldrich),

Crude extract and purified LPS (1 ug) were loaded and separated by SDS-PAGE gel and blotted onto nitrocellulose membrane. After blocking with 5 % skim milk, membrane was reacted with MAb at 1/250 dilution. They showed similar band patterns characteristic of LPS, O-chain repeating unit. MAb (se-01) recognizes common antigenic determinants that are found in the structural components of *Salmonella* LPS.

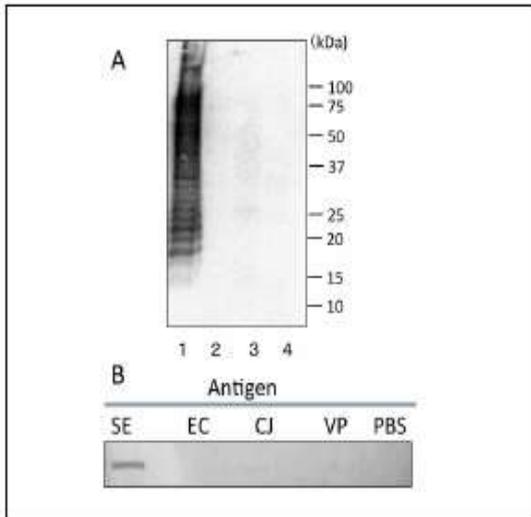


Fig 2. Reactivities of MAb (se-01) with several food poisoning bacteria in Western blotting (A) and slot blot test (B).

(A) 1: *S. Enteritidis*, 2: *Vibrio parahaemolyticus*, 3: *Escherichia coli* 4: *E. coli* O157:H7. MAB (ae-01) reacts only with *S. Enteritidis*.

(B) Extracts of each strain of food poisoning bacteria were coated onto 5 area of a nitrocellulose membrane. Each membrane was soaked and reacted with MAb (se-01). SE: *S. Enteritidis*, EC: *E. coli*, CJ: *Campylobacter jejuni*, VP: *V. parahaemolyticus*, MAB (se-01) recognizes LPS of *S. Enteritidis*, but does not react with any non-Salmonella bacteria tested.

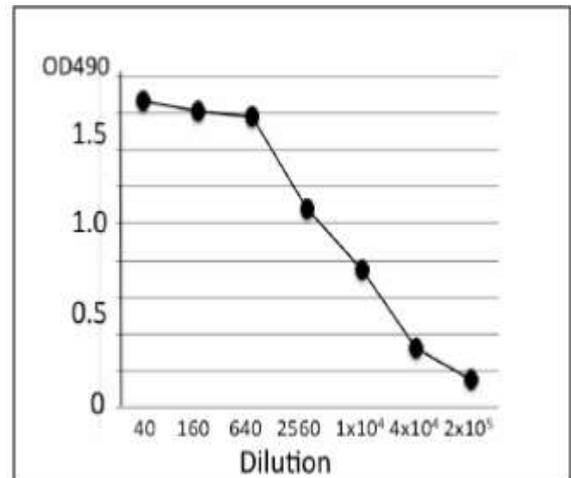


Fig.3. Titration of antibody reactivity of MAB (se-01) by indirect ELISA using crude extract of *S. Enteritidis*

The wells of plate were coated with crude extract of *S. Enteritidis* (100 μ l, 1 μ g/ml). After blocking with 5% skim milk, 100 μ l of antibody at the indicated dilution was added to the each well. HRP-conjugate goat anti-mouse IgG (100 μ l, x2000 dilution) was added. Color was developed with orthophenylenediamine as substrate. Optical densities (OD) measured at 490nm.

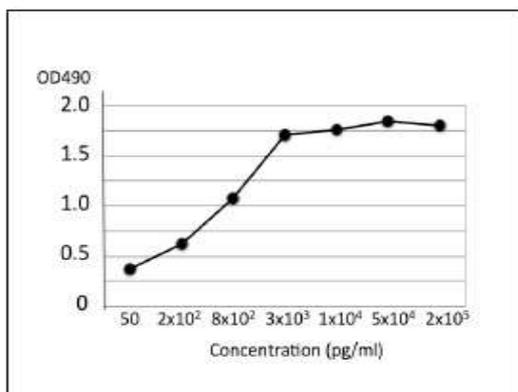


Fig4. Titration of LPS in the extract of *S. Enteritidis* cells by indirect ELISA .

ELISA plate was coated with indicated amounts of the extract of *S. Enteritidis* cells . MAB (se-01) was used at 1/500 dilution. ELISA was performed as described in Fig.3

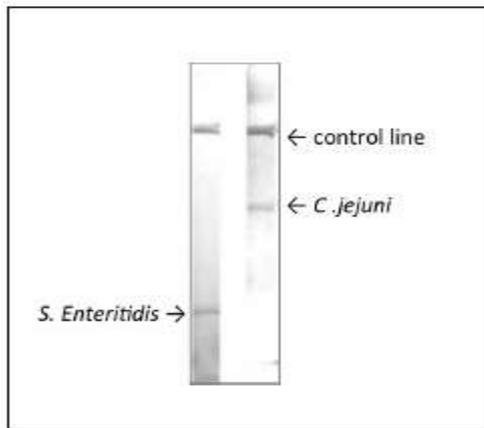


Fig.5 Immunochromatography with MAb (se-01)
 Goat anti-*S. Enteritidis* serum and rabbit anti-*Campylobacter jejuni* serum were coated onto a specific upper area and under area, respectively, of the same nitrocellulose membrane, while goat anti-mouse IgG was coated onto another specific area (control line) on the same membrane. MAb (se-01) or *C. jejuni* MAb conjugated with colloidal gold were mixed with extract of each food poisoning bacteria in well. The strips were soaked and reacted with the mixture. Specific reactivity was shown in the well containing *S. Enteritidis* (left strip) and *C. jejuni* (right strip).

Table 1. Reactivity of MAb (se-01) with various food poisoning bacteria.

	ELISA	WB
<i>Salmonella Enteritidis</i> (ATCC13076)	+	LPS
Other 18 isolated strains	+	+
<i>Salmonella Typhimurium</i>	+	
<i>Campylobacter jejuni/coli</i>	-	-
<i>Vibrio parahaemolyticus</i>	-	-
<i>Escherichia coli</i> (ETEC)	-	-
EHEC (0157:H7)	-	-
<i>Staphylococcus aureus</i>	-	
<i>Clostridium perfringens</i>	-	
<i>Bacillus cereus</i>	-	
LPS from <i>S. Enteritidis</i> *	+	LPS
Purified LPS (from <i>S. Enteritidis</i>)	+	LPS

*Sigma-Aldrich, Inc.

Reference: There has been no publication using this antibody.

Please let us know when your research using this antibody is published so that we can cite the publication in this datasheet. We will offer one vial of our antibody as compliment.