Anti-Vero toxin / Shiga toxin subunit A antibody, mouse monoclonal (vero-01)

64-027　　100 µg

Storage: -20℃.

Immunogen: Culture supernatant of *E. coli* 0111 (EHEC strain)

Form: 1 mg/ml in PBS- with 50% glycerol, filter sterilized.

Isotype: mouse IgG1

Purity: IgG, affinity-purified with Protein A

Reactivity: Reacts with subunit A of VT1, VT2 and Stx

Applications:

1. Western blotting　(1/500~1/1,000)
2. ELISA　(assay dependent)
3. Immunochromatography (assay dependent)

Other applications have not been tested.

Backgroud: Vero toxin (VT) is produced by Enterohaemorrhagic strains of *Escherichia coli* (*E. coli*, VTEC, EHEC) and has lethal activity to Vero cells. EHEC strains produce either one or both of the VT1 and VT2. Both VT1 and VT2 consist of one subunit A and five copies of subunit B.　The primary structure of VT1 is identical or nearly identical to Shiga toxin (Stx) produced by *Shigella dysenteriae* serotype 1 and also called Slt 1 (Shiga-like toxin 1). Subunit A causes inhibition of protein synthesis and subsequent cell death, whereas subunit B is presumed to bind specifically to the Vero cell-surface receptor and mediate uptake of the toxins.　Some *E. coli* strains produce both Slt1 and Slt2, and they share sequence identity of 55 %, but they are immunologically distinct.

Data Link: UniProtKB P08026 (Shiga-like toxin 1 A),
UniProtKB P09385 (Shiga-like toxin 2 A), Q9FBI2 (Shiga toxin A)

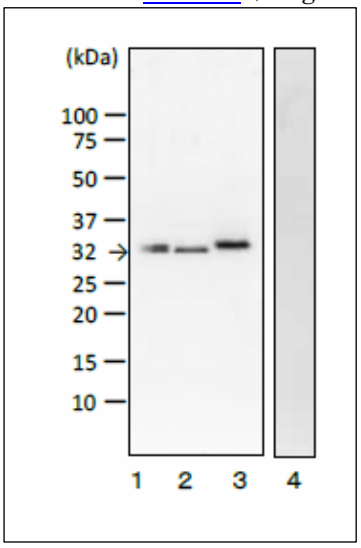

Fig.1. Detection of VT1 and VT2 by Western blotting with monoclonal antibody (vero-01).

1. Culture medium of *E. coli* O157:H7
2. Purified VT1
3. Purified VT2
4. VT non-producing E. coli.

Arrow shows subunit A (32kDa) of VT1 and VT2.

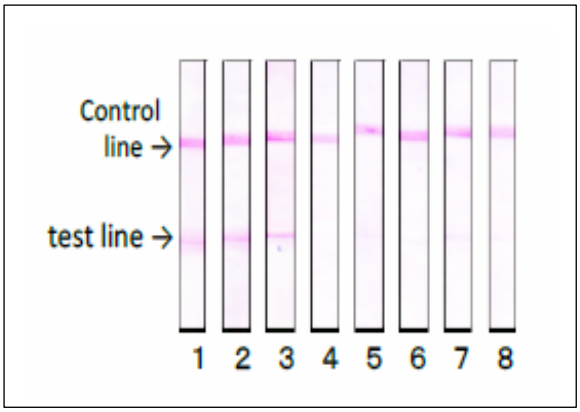

Fig 2. Reactivity of the antibody (vero-1) with various food poisoning bacteria in immunochromatographic strip test.

Rabbit anti-VT/Stx serum (BioAcademia, 64-025) was coated onto a specific area (test line) of a nitrocellulose membrane, while goat anti-mouse IgG was coated onto another specific area (control line) on the same membrane. Extract of each strain of food poisoning bacteria was mixed with the monoclonal antibody conjugated with colloidal gold. The strip was soaked in the mixture and reacted. (1) *E. coli* O26, (2) *E. coli* O111, (3) *E. coli* O157:H7, (4) *E. coli K12,* (5) *Salmonella Enteritidis,* (6) *Campylobacter jejuni*, (7) *Staphylococcus aureus*, (8) PBS. MAb (vero-1) reacted with EHEC strains, O26, O111 and O157:H7, but not with other food poisoning bacteria.

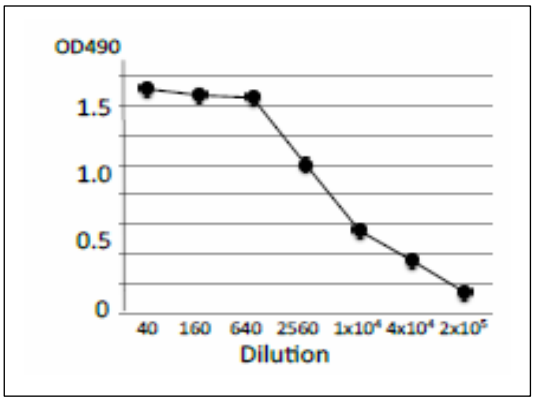

Fig.3. Titration of antibody reactivity of the monoclonal antibody by indirect ELISA using crude extract of *E.coli* O157:H7

The wells of plate were coated with crude extract of *E. coli* O157:H7 (100 µl, 1 µg/ml). After blocking with 5% skim milk, 100 µl of antibody at the indicated dilution was added to the each well. HRP-conjugate goat anti-mouse IgG (100µl、x2000 dilution) was added. Color was developed with OPD (orthophenylenediamine) as substrate. Optical densities (OD) measured at 490nm.

Reference: There has been no publication using this antibody. Please let us know when your research using this antibody is published. We will offer one vial of our antibody as compliment.