**INTENDED USE**

Pro-Lab *E. coli* 0157 Antiserum is for use in the slide agglutination test for the presumptive identification of *Escherichia coli* serotype O157 antigen on laboratory culture media.

**SUMMARY AND EXPLANATION**

*Escherichia coli* serotype O157:H7 is a verotoxin producing (VT-1) pathogen. It is also associated with haemolytic uraemic syndrome. Certain *E. coli* serotypes other than O157:H7 also produce verotoxin. However, the diarrhoea caused by these other serotypes is not usually bloody. Additionally, *E. coli* serotype O157:H7 does not ferment sorbitol whereas the majority of other serotypes do ferment sorbitol. Therefore, if Sorbitol-MacConkey key agar medium is used as a primary screen, the colonies of *E. coli* serotype O157:H7 appear colourless (non-sorbitol fermenting colonies - NSFC) while colonies of other serotypes appear characteristically pink (sorbitol fermenting colonies - SC) in young, fast growing cultures.

The work of Kauffmann and Orskov contributed to the development of a system for serological typing of *E. coli* cultures and resulted in an antigenic classification scheme which can be used to identify the serotypes of *Escherichia coli* which are associated with bacteriuria or diarrheal disease.

The principle of the test involves mixing the suspected organisms with the antiserum containing *E. coli* O157 antibodies. The bacteria will agglutinate (clump) in the presence of homologous antiserum.

**PRECAUTIONS**

1. Do not use antiserum after the expiry date shown on the product label.
2. The antiserum contains thimerosal, which is a highly toxic mercury based compound. Although the amount of thimerosal in the antiserum is minimal, safety precautions should be taken in handling, processing and discarding the reagent.
3. Avoid contamination of the reagent bottle.

4. The test specimen may contain organisms pathogenic to man and should be handled and discarded as infectious material.
5. The reagent is intended for *in vitro* diagnostic use only.
6. The procedures, storage conditions, precautions and limitations specified in these directions must be adhered to in order to obtain valid test results.
7. Product contains material of animal origin and should be handled as a potential carrier and transmitter of disease.

**MATERIAL REQUIRED BUT NOT PROVIDED**

- Glass Slides
- Normal Saline (0.85% sodium chloride solution)
- Disposable or Wire Loops
- Toothpicks

**STABILITY AND STORAGE**

Pro-Lab *E. coli* 0157 Antiserum should be stored tightly capped at 2°C to 8°C. Under these conditions the antiserum may be used up to the date of expiry shown on the product label.

**SPECIMEN COLLECTION AND CULTURE PREPARATION**

Clinical specimens should be cultured on Sorbitol-MacConkey medium. NSFC may be subcultured on non-selective agar medium. Colonies from overnight growth must be cleaned removed from agar surface for testing using a sterile loop. Young, fast growing cultures will yield typical results.

**PROCEDURE**

1. Place two separate drops of normal saline (0.85% sodium chloride) on a clean glass slide.
2. Take a suspect *Escherichia coli* colony from an overnight culture plate and mix thoroughly with both drops of normal saline on the slide to obtain a smooth suspension.
3. Add one drop of antiserum to one of the bacterial suspension drops on the slide, to the other (control) add one drop of normal saline.
4. Mix the antiserum with the bacterial suspension using a toothpick. Then mix the saline (control) with a fresh toothpick.
5. Gently rock the slide back and forth for one minute and observe for agglutination under normal lighting conditions or using a low power objective.

**INTERPRETATION OF RESULTS**

A distinct agglutination (granular clumping) in the antiserum test, within 60 seconds, is regarded as a positive result. There must be no agglutination in the saline control or else the test is not valid (auto-agglutination).

**LIMITATIONS OF THE PROCEDURE**

1. A normal saline control should be included in every test to insure the specificity of the reaction.
2. Rough strains give auto-agglutination in slide tests. False positives usually agglutinate in control saline.
3. It is recommended to check the potency of *Escherichia coli* antiserum with stock cultures of known antigenic structure.

**REFERENCES**

= Use by
LOT = Lot number
⚠️ = Attention, see instructions for use
REF = Catalogue number
_creator_ = Manufacturer
EC REP = Authorized Representative in the European Community
IVD = In vitro diagnostic medical device
🌡️ = Temperature limitation
🔍 = Consult instructions for use