Vibrio cholerae Antisera

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BTA491 *V. cholerae* O1 Polyvalent	2ml
BTA492 *V. cholerae* Inaba	2ml
BTA493 *V. cholerae* Ogawa	2ml
BTA494 *V. cholerae* 0139	2ml
BTA495 *V. cholerae* 0141	2ml

Typing antisera as an aid to the identification of Vibrio cholerae

Intended Use
Liquid stable antisera for the determination of O antigens for the serological identification of *Vibrio cholerae*.

Summary and Explanation
Vibrio species are natural inhabitants of brackish and salt water worldwide. Human disease is associated with ingestion of contaminated water or consumption of contaminated shellfish or seafood. Wound and systemic infection have developed following contact with water. *Vibrio cholerae* is the etiologic agent of a secretory diarrhoea spread by the faecal-oral route. Two biotypes El Tor and Classical are associated with human disease which may be asymptomatic, mild or severe. Left untreated, patients with severe cholera may die within 5 hours as a result of massive fluid and electrolyte loss. *V. cholerae* 01 Inaba and Ogawa are the most common serotypes however other non-01 serotypes are in circulation that cause identical symptoms.

Principle
Serological tests are based on the fact that antibodies in serum, produced in response to exposure to bacterial antigens, will agglutinate with bacteria carrying homologous antigens.

Formulation
Antisera are prepared from rabbits immunised with standard reference strains according to international standards, and adsorbed to remove cross reactions. The antisera contain <0.1% sodium azide as a preservative.

Warnings and precautions
Observe approved biohazard precautions and aseptic techniques. To be used only by adequately trained and qualified laboratory personnel**.** Sterilise all biohazard waste before disposal. Sodium azide preservative may be toxic if ingested and may react with lead and copper plumbing to form highly explosive salts. Always dispose of by flushing to drain with plenty of water. Refer to Product Safety Data sheet.

Contents: See pack label

Stability and storage
Store unopened at 2-8°C until the expiry date shown on the pack label. Once opened, product should be stored at 2-8°C and may be used until the expiry date given on the label. On storage, some antisera may become slightly turbid. This does not necessarily indicate deterioration and the product may be clarified by centrifugation or filtration before use. If the product exhibits gross turbidity indicating contamination it should be discarded.
Do not freeze reagents

Materials required but not provided:
Standard microbiological supplies and equipment such as loops, applicator sticks, clean glass microscope slides or glass tubes, swabs, culture media, incinerator and incubator, etc., as well as reagents and additives such as sterile 0.85% saline solution.

Procedure

Slide agglutination of live organisms

1. Dispense two 5-10µl volumes of sterile 0.85% saline solution (saline) onto a carefully cleaned microscope slide. The slide may be partitioned using a china-graph pencil. With an inoculation loop take one 1-2mm colony of live organisms from a fresh culture on Nutrient Agar or similar and emulsify into each drop of saline to produce a distinct and uniform turbidity.
2. Place a drop (30-40µl) of antiserum onto one of the emulsified isolates and on to the other a drop (30-40µl) of saline as a control. Note: Do not allow the organism to contaminate the antiserum dropper bottle.
3. Mix the reagents by tilting the slide back and forth for 60 seconds while viewing it under indirect light against a dark background.
4. Distinct clumping or agglutination within this period, without clumping in the saline control (auto-agglutination), should be regarded as a positive result.

Interpretation of results
Isolates producing a distinct positive reaction with the polyvalent antiserum are assumed to be *V. cholera* O1. Further testing of the isolate should be conducted as described in steps 1-3, with monovalent antisera. Specimens that show agglutination only with Inaba-type serum should be reported as *V. cholerae* O1 serovar Inaba and specimens that show agglutination only with Ogawa-type serum should be reported as *V. cholerae* O1 serovar Ogawa. Specimens that show agglutination with both types of serum should be reported as *V. cholerae* O1 serovar Hikojima. Specimens that show agglutination only with O139 serum should be reported as *V. cholerae* serovar 0139 and specimens that show agglutination only with O141 serum should be reported as *V. cholerae* serovar 0141.

Note: It should be remembered that El Tor Vibrios cannot be distinguished from V. cholerae O1 by serological means.

Limitations of use
Only cultures of organisms identified as *V. cholerae* by morphological and biochemical features should be serotyped with this product.
Polyvalent antisera are intended for use in rapid slide agglutination tests only. Monovalent antisera are intended for use in rapid slide agglutination tests for further identification.
Positive results may be confirmed by type agglutination tests.
Inaba and Ogawa subtypes of *V. cholerae* are closely related and therefore cross reactions may occur.

Quality control
It is recommended that quality control should be performed with at least one positive organism to demonstrate a positive reaction and at least one negative organism to demonstrate a negative reaction. Do not use the product if the reactions with the control organisms are incorrect. Check for signs of deterioration. Do not use reagents if they are contaminated or cloudy.

See product list for the complete range of *Vibrio cholerae* typing sera.