Pneumococcal antisera
for serotyping of Streptococcus pneumoniae

INTENDED USE
Pneumotest from Statens Serum Institut is intended for qualitative typing and/or grouping of 90-95% of the pneumococci commonly isolated from blood and cerebrospinal fluid by means of the capsular reaction test using the "Chessboard method" (4). This is a fast and easy-to-perform test method that requires only standard microbiological equipment such as microscope, inoculating loops, glass slides and cover slips.

SUMMARY AND EXPLANATION
Pneumococci can be typed by a capsular reaction test using the "Chessboard method" (4). This is a fast and easy-to-perform test method that requires only standard microbiological equipment such as microscope, inoculating loops, glass slides and cover slips.

PRINCIPLE (capsular reaction test)
The capsular reaction is the interaction between pneumococcal capsular polysaccharide and its homologous antibody (2). If the capsular becomes visible, the reaction is positive. A positive reaction is the result of an in situ immunoprecipitation leading to a change in the refractive index. In addition the bacteria agglutinate. The capsular reaction also is called the quellung reaction and has been described in detail elsewhere (1).

REAGENT SPECIFICATIONS
Pneumococcal antisera from Statens Serum Institut are raised in rabbits. They are manufactured under aseptic conditions and contain no agents known to be infectious to humans. Each vial in the kit contains 1 ml antiserum preserved with 15 ml sodium azide and 0.0975% sodium azide (0.0975% sodium azide).

STORAGE AND SHELF LIFE
Minimum titre when used in capsular reaction test (4): Pool sera 8 Type serum 1 16

PRECAUTIONS
The diagnostic antisera are intended for use by qualified professionals who are familiar with their use and trained in good laboratory procedures. Direct contact with the reaction test should be avoided. Use gloves or wash hands after performing the test. To avoid contamination, the antisera should be handled under sterile conditions.

SPECIMEN PREPARATION

1. 1 droplet (1-4 µl) of a broth culture is placed on a glass slide. If the culture is taken from an agar plate, a small amount of bacterial culture is transferred from the plate and mixed into a droplet of phosphate buffered saline which has been placed on the glass slide.
2. An equal amount of antiserum is added and mixed thoroughly with the droplet on the slide. It is preferable to have relatively few organisms per microscope field.
3. Immediately place a cover slip on top of the mixture. It is important that the preparation does not dry out.
4. Examine the mixture under a phase contrast microscope using an oil immersion lens, magnification x 100. The reaction is stable for half an hour provided the preparation does not dry out.
5. If the capsule becomes visible (the bacterium appears swollen), the pneumococcus in question has been typed.

Typing strategy
Pneumococci can be typed by a capsular reaction test using the "Chessboard method" (4).

Artillerivej 5
2300 Copenhagen S
Denmark

2606 Copenhagen V
Denmark

SERUM INSTITUT
STATENS

PNEUMOTEST Pneumococcal antisera for serotyping of Streptococcus pneumoniae in vitro diagnostic use

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Pool P Q R S T Non-vaccine

LIMIT
mixed with phosphate-buffered saline.
fully. As negative control it is recommended to use a bacterial culture
fails, the medium and other growth conditions have to be evaluated care-
reactions when mixed with pool A and pool P respectively. If this test
homologous Type serum 1. Furthermore, this strain must give positive
in must exhibit distinct capsules when examined in mixture with the
reference, as well as control of growth media and growth conditions, the
re plus its homologue Type serum 1. This control is intended as positive

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DISPOSAL
Dispose all clinical samples in accordance with local legislation.

AVAILBLE PRODUCTS

Vaccine containing antibodies to all 90 known types of pneumococcal
capsular polysaccharide (3).

Pool sera - 14 different pool sera are available, each reacting with 6-13
types. Pool P to T cover all 90 different types. Pool P to T cover 21
groups and/or types present in the 23-valent pneumococcal vaccine.

Group sera - 21 different group sera are available, each reacting with all
the types within a group. E.g.: Group 6 antiserum reacts with both type
6A and 6B within group 6.

Factor sera - 25 different type sera are available, each reacting with 1
capsular polysaccharide (3).

Group sera - 21 different group sera are available, each reacting with all
the types within a group. E.g.: Group 6 antiserum reacts with both type
6A and 6B within group 6.

Factor sera - 64 different factor sera are available and can be used to
identify specific types within a group. Thus factor sera should be used to
differentiate between the types 6A and 6B within group 6. The 64
factor sera cover all known pneumococcal types belonging to groups.

Pneumotest is a kit that consists of 12 pooled sera (A to F, H and T
- 25 different type sera are available, each reacting with 1
capsular polysaccharide (3).

Type sera - 25 different type sera are available, each reacting with 1
single type. E.g.: Type serum 1 is specific to type 1 pneumococcus.

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