

IMMULEX™
STREPTOCOCCUS GROUP KIT



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Latex particles coated with streptococcal antiserum raised in rabbits

Application

The ImmuLex™ *Streptococcus* Group Kit is a ready-to-use product for streptococcal serotyping of group A, B, C, D, F and G.

Principle

The ImmuLex™ *Streptococcus* Group Kit is a rapid latex agglutination test for streptococcal serotyping using bacterial suspension or a chemical extraction of group specific antigens with nitrous acid extraction reagents. The extraction and serotyping is done at room temperature.

Description

The ImmuLex™ *Streptococcus* Group Kit consists of:

- Latex suspensions:
Six vials (A, B, C, D, F and G) containing latex particles coated with streptococcal group antiserum raised in rabbits (0.0975 % sodium azide as preservation).
- Extraction Reagent 1 (red cap):
Two vials each containing 2 mL of sodium nitrite solution. The reagent is classified as harmful and labelled:



Warning

H302: Harmful if swallowed.

P301+P312: If swallowed, call a POISON CENTER or doctor/physician if you feel unwell.

- Extraction Reagent 2 (yellow cap):
Two vials containing 2 mL each of an acid solution.
- Neutralising Reagent 3 (blue cap):
Two vials each containing 2 mL of a neutralizing solution (0.0975 % sodium azide as preservation).
- 50 disposable reaction cards
- Mixing sticks

Cross-reactions in the antisera have been removed by absorption. The kit contains reagent for approximately 75 tests.

Warning and precautions

The combination of reagent 1,2 and 3 produce hazardous fumes. Step 1-5 in the procedure including the three reagents is recommended to be performed in a fume hood wearing gloves.

Limitations

The ImmuLex™ *Streptococcus* Group Kit is intended for serotyping of pure cultures of streptococci. It is well known that *Enterococcus* species (group D antigen) and *Streptococcus* group D strains can cross-react in antiserum directed against other *Streptococcus* groups. ^{1,2,3,4}

Materials Required but not Provided

- 5-10 % blood agar plate
- 1 μL inoculation loop
- Pipette (droplet off approx. 10 μL)
- Tubes

Procedure

Do not perform more than three reactions simultaneously before reading the result.

1. Before using the latex reagent it is very important to bring the bottle to room temperature and shake it.
2. Suspend 1 μL inoculation loop of bacteria culture from a 5-10 % blood agar plate in 250 μL saline.
3. For each reaction add one drop (approx. 10 μL , squeeze the bottle gently) of latex reagent on the reaction card. DO NOT let the drop be a free falling drop as this will be 45 μL instead of 10 μL .
4. For each reaction add 10 μL of the bacterial suspension on the reaction card. For negative control use one drop of saline , instead of bacterial suspension.
5. Mix the latex drop and the bacterial suspension drop with a mixing stick. Use a separate stick for each reaction.
6. Spread to cover the area of the circle.
7. Rock the card slowly and observe for agglutination within 30 seconds. Any agglutination after 30 seconds is not true a positive reaction.

Follow the procedure below if there is no reaction or if reaction is indistinct.

Extraction of bacterial antigen:

1. Add one drop of reagent 1 (red cap) to a tube.
2. Suspend a 1 μL inoculation loop of bacteria culture from a 5 - 10 % blood agar plate in the tube containing reagent 1.
3. Add one drop of reagent 2 (yellow cap) to the tube and mix.
4. Wait minimum 10 minutes (maximum 60 minutes). Add one drop of reagent 3 (blue cap) to the tube and mix.

Agglutination test:

1. For each reaction add one drop (approx. 10 μL , squeeze the bottle gently) of latex reagent on the reaction card. DO NOT let the drop be a free falling drop as this will be 45 μL instead of 10 μL .
2. For each reaction add 10 μL of the bacterial extract on the reaction card. For negative control use a mixture of one drop reagent 1, 2, and 3, respectively.
3. Mix the latex drop and the bacterial extract drop with a mixing stick. Use a separate stick for each reaction.
4. Spread to cover the area of the circle.
5. Rock the card slowly and observe for agglutination within 30 seconds. Any agglutination after 30 seconds is not a true positive reaction.

Interpretation

A positive result in one of the latex reagents identifies the group. Example:

If there only is a positive reaction in the group B latex reagent, the strain is a *Streptococcus* group B.

As the group antigen D is known to cross-react with other *Streptococcus* groups, there can be more than one positive reaction with the latex reagents. If, however, there is a positive reaction in the group D latex product the strain is a *Streptococcus* group D or an *Enterococcus* species (which have group D antigen).

The group D latex product is developed to identify the following species: *S. alactolyticus*, *S. bovis*, *S. durans*, *S. hazem*, *S. gallolyticus*, *S. equinus*, *E. faecium* and *E. faecalis*.

Product Assortment

Besides the ImmuLex™ *Streptococcus* Group Kit, SSI Diagnostica offers the following *Streptococcus* latex products.

Art. No.	Product	Number of tests	Packing
85209	ImmuLex™ <i>S. suis</i> Kit incl. 9 vials	75	1 box
54991	ImmuLex™ Strep-B Kit incl. 10 types (Ia-IX)	75	1 box
73258	ImmuLex™ group A	75	1.5 mL
73259	ImmuLex™ group B	75	1.5 mL
73260	ImmuLex™ group C	75	1.5 mL
73261	ImmuLex™ group D	75	1.5 mL
73262	ImmuLex™ group G	75	1.5 mL
73263	ImmuLex™ group F	75	1.5 mL
73264	ImmuLex™ group L	75	1.5 mL
86255	Extraction reagent 1	40	2 mL
86256	Extraction reagent 2	40	2 mL
86257	Neutralising reagent 3	40	2 mL
53285	Reaction cards for latex agglutination	3 x 200	1 box

Storage and Shelf Life

Store at 2-8 °C in a dark place. Expiry date is printed on the package.

Do not freeze (if the reagents have accidentally been frozen, they should not be used).

Typing Support

If a streptococcal isolate does not agglutinate in any of the six latex group antisera, the strain may be sent to SSI Diagnostica (2 Herredsvejen, DK-3400 Hillerød) for further examination.

References

1. Harvey, CL., McIlmurray, MB. Eur. J. Clin. Microbiol, 6(3): 526-530, 1984.
2. Birch, BR. et al., J Clin Pathol, 37: 1289-1292, 1984.
3. Finch, RG., Phillips, I. J Clin Pathol, 30: 168-170, 1977.
4. Poultrrel, B. Am J Vet Res, 44(3): 490-492, 1983.

Information and Ordering

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