# STREP SELECTIVE AGAR

## INTENDED USE
Remel Strep Selective agar is a solid medium recommended for use in qualitative procedures for the primary isolation of *Streptococcus pyogenes* from throat cultures and upper respiratory specimens.

## SUMMARY AND EXPLANATION
It has been clearly established that early detection of *S. pyogenes* infections is of paramount importance in preventing development of rheumatic fever and glomerulonephritis.[1] Previous investigators have reported the value of ribonucleic acid and maltose for the increased production of streptolysin S, the active substance causing hemolysis on blood agar.[2,3] Neomycin and polymyxin B are selective agents which facilitate isolation of *S. pyogenes* by suppressing commensal microbial flora found in the oropharynx.[4,5] Strep Selective Agar is based on the formulation of Roantree, Rantz, and Haines.[6]

## PRINCIPLE
Casein and soy peptones are a nutritious source of organic nitrogen, amino acids, and peptides which are required for bacterial growth. Sodium chloride supplies essential electrolytes and maintains osmotic equilibrium. Ribonucleic acid and maltose enhance the production of hemolysis. Neomycin and polymyxin B are selective agents which suppress commensal microbial flora, including coliforms, staphylococci, *Micrococcus, Haemophilus,* and *Neisseria* spp.

## REAGENTS (CLASSICAL FORMULA)*

| | | | |
|---|---|---|---|
| Casein Peptone | 15.0 g | Neomycin | 10.0 mg |
| Sodium Chloride | 5.0 g | Polymyxin B | 10.0 mg |
| Soy Peptone | 5.0 g | Sheep Blood | 5 % |
| Ribonucleic Acid | 3.0 g | Agar | 15.0 g |
| Maltose | 0.5 g | Demineralized Water | 1000.0 ml |

pH 7.3 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

## PROCEDURE
1. Inoculate and streak the specimen as soon as possible after it is received in the laboratory. Selective and nonselective media should be inoculated to ensure recovery of microorganisms that may be inhibited on selective agar.
2. Inoculate Strep Selective Agar by rolling the swab over a small area of the agar surface. Use a sterile inoculating loop to streak for isolation. Stab the agar several times with the loop in the area of heaviest inoculation. Anaerobiosis below the surface of the agar permits maximum expression of beta hemolysis by subsurface colonies.
3. Incubate plates in 5-10% $CO_2$ at 33-37°C for 24-48 hours.
4. Examine plate for typical colony morphology and beta hemolysis. On Strep Selective Agar, colonies of group A streptococci are translucent or opaque, white to gray and surrounded by a zone of beta hemolysis.

## QUALITY CONTROL
All lot numbers of Strep Selective Agar have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, patient results should not be reported.

| CONTROL | INCUBATION | RESULTS |
|---|---|---|
| *Streptococcus agalactiae* ATCC® 12386 | $CO_2$, 24-48 h @ 33-37°C | Growth, beta hemolysis |
| *Streptococcus pneumoniae* ATCC® 6305 | $CO_2$, 24-48 h @ 33-37°C | Growth, alpha hemolysis |
| *Streptococcus pyogenes* ATCC® 19615 | $CO_2$, 24-48 h @ 33-37°C | Growth, beta hemolysis |
| *Escherichia coli* ATCC® 25922 | $CO_2$, 24-48 h @ 33-37°C | Inhibition (partial to complete) |
| *Neisseria sicca* ATCC® 9913 | $CO_2$, 24-48 h @ 33-37°C | Inhibition (partial to complete) |
| *Staphylococcus epidermidis* ATCC® 12228 | $CO_2$, 24-48 h @ 33-37°C | Inhibition (partial to complete) |

## LIMITATIONS
1. Species of streptococci other than *Streptococcus pyogenes* routinely grow on this medium and must be differentiated. Additional biochemical and serological tests are required for definitive identification. Consult appropriate references for further instructions.[1]

## BIBLIOGRAPHY

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6. Roantree, R.J., L.A. Rantz, and E. Haines. 1958. J. Lab. Clin. Med. 52:496.


Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.



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