

**Group B Streptococcus**

# **GBS**

**Serotyping kit**

**A co-agglutination assay for  
serotypes**

**Ia, Ib, II, III, IV, V, VI, VII, VIII**



**ESSUM**

ProBiotics

## Group B *Streptococcus* [GBS] Serotyping Test

The Essum GBS serotyping test is intended for the serotyping of clinical isolates of GBS from culture plates where the organism has been isolated.

### RATIONALE

GBS is a major cause of life-threatening neonatal infection. The early onset form of the disease is associated with transmission of bacteria to the infant from the birth canal. Nosocomial transmission in infants has also been documented. In immuno-compromised adults GBS is an opportunistic pathogen, and may cause a spectrum of infectious diseases including pneumonia, septic arthritis, osteomyelitis, endocarditis and meningitis (1).

The Essum GBS serotyping test may be used for serotype classification of colonising and invasive strains for epidemiological purposes. The kit recognizes the nine most frequently occurring serotypes (polysaccharide antigens): Ia, Ib, II, III, IV, V, VI, VII and VIII.

### PRINCIPLE OF THE ASSAY

The test is based on the principle of co-agglutination. Separate batches of inactivated group G Streptococcal cells (GGs) are coated with rabbit antibodies specific to the polysaccharide type antigens of GBS. When GBS from a culture plate are mixed with suspensions of coated GGs they agglutinate the suspension coated with the corresponding antibody (2).

### REAGENTS PROVIDED

- a) Six dropper bottles, each containing 1,5 ml (30 tests) of a suspension of inactivated GGs cells coated with rabbit antibody against GBS polysaccharide antigens Ia, Ib, II, III, IV or V. (The other three types are individually packaged)
- b) One dropper bottle containing a suspension of inactivated GGs, type III, to be used as a positive control.
- c) 30 agglutination test plates, each with 6 agglutination sites.

The kit expiry date is indicated on the outer box label. All reagents should be stored at +6°C. To the cell suspensions provided, 15 mM NaN<sub>3</sub> has been added as a preservative.

- 1) Baker CJ and Edwards, MS: GBS Infections. In: Remington & Kline (eds.) Infectious diseases of The Foetus and Newborn, 4
- 2) Håkansson, S et. al. Novel co-agglutination method for serotyping GBS. J Clin Microbiol 1992;30:3268-9.
- 3) Sellin, M et. al. Genotyping of the Capsule Gene Cluster (cps) in Nontypeable Group B Streptococci Reveals Two Major cp

## PRECAUTIONS

The suspensions provided contain inactivated bacteria shown to be non-viable when cultured. However, the contents should be handled and disposed of as if infectious. Specimens, and all materials coming into contact therewith should be handled and disposed of as potentially infectious. Do not eat, drink or smoke in areas where samples or kit reagents are handled.

Contamination or incorrect storage of reagents may adversely affect the performance of the kit. Do not mix or interchange different batches or lots of reagents. Use separate loops for each specimen, reagent or control. Avoid cross contamination of specimens and reagents.

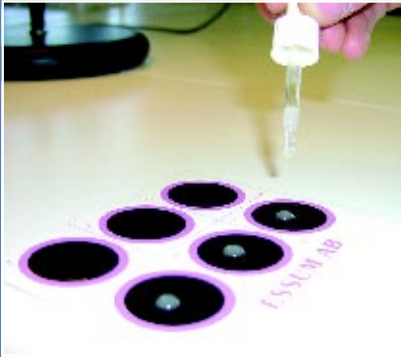
## ASSAY PROCEDURE

Reagent bottles should be agitated before use to resuspend contents.

- Place 40µl (1 drop) of reagent from each bottle in the agglutination site on the test plate.
- Use a conventional 10 µl loop (not provided) to pick some fresh colonies from the plate where the bacteria have been isolated, and transfer adjacent to the drop of reagent. Place the loop in the drop and return this small volume to mix with the bacterial material. Then mix and spread with the rest of the reagent within the agglutination site.
- Using a fresh loop, repeat the procedure above for each serotype and agglutination site on the test plate.
- Agitate the test plate gently for 1 minute. Read the agglutination pattern while agitating.

## INTERPRETATION OF RESULTS

If the tested GBS strain belongs to one of the nine polysaccharide serotypes, a visible agglutination should be seen after 1 minute (often earlier) in the respective agglutination site. Infrequently, some GBS-strains may give a non-specific, weak agglutination with more than one reagent. The result of the test may then be more clear cut if a dense suspension of washed GBS, harvested from an overnight broth culture, is used. If all tests are consistently negative the procedure can be checked by using the positive control instead of the clinical isolate. If the test is negative, the investigated strain may be devoid of polysaccharide capsule, or belong to a serotype other than Ia-VIII.



## Group B *Streptococcus* Serotyping Kit

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