DNA-TECHNOLOGY

INFECTIONS

GBS LAMP

reagent kit for detection of *Streptococcus agalactiae* DNA by loop-mediated isothermal amplification

The GBS LAMP Detection Kit is intended for *Streptococcus agalactiae* (group B streptococcus) DNA detection in human biological samples by loop-mediated isothermal amplification

Rapid diagnosis of GBS infection in laboring women

Reagents for sample preparation are included

High-speed testing

Biomaterial: urogenital swabs, rectal swabs

Fluorescent-labeled probes are used for real-time detection

What is *Streptococcus agalactiae*?

It is a facultative-anaerobic Gram-positive bacterium that belongs to the genus *Streptococcus*, group B of Lancefield classification of streptococci, family *Streptococcaceae*.

S. agalactiae detection is important

Streptococcus agalactiae or group B streptococcus (GBS) colonizes the human gastrointestinal and genitourinary tracts and can cause infectious process in pregnant women and newborns.

In pregnant women *S. agalactiae* can cause septic infections by entering the uterine cavity, amniotic fluid, uterine incisions after cesarean section or the urinary tract.

In newborns *S. agalactiae* is a frequent reason of early neonatal infections and can cause severe diseases including bacteremia, pneumonia, sepsis.

The main risk factor in developing GBS invasive neonatal disease is maternal vaginal/rectal colonization of GBS during childbirth.

Up to 40% of pregnant women present GBS colonization, and 1 to 2% of newborns may develop infection by this microorganism.

Potential complications of GBS infection

In newborns

- Sepsis
- Meningitis
- Pneumonia
- Osteomyelitis
- Arthritis
- Pyelonephritis

In pregnant women

- Preterm childbirth
- Spontaneous abortions
- Premature release of amniotic fluid
- Early neonatal sepsis
- Urinary tract infections
- Chorioamnionitis during labor
- Postpartum endometritis

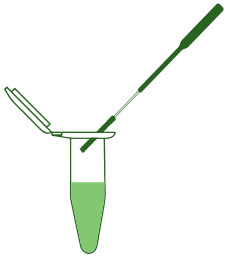
When should testing for colonization with GBS be prescribed?

Given the high probability of a newborn infection and the risk of postpartum complications in a mother, the CDC (Center for Diseases Control) recommends that pregnant women should be screened for *S. agalactiae* colonization at 35-37 weeks of gestation. In case of presence of risk factors screening should be provided at any other time of pregnancy.

Detection in pregnant or laboring women in the absence of a previous screening is essential to initiate intrapartum antibiotic prophylaxis.

The GBS LAMP Detection Kit could be used in case of emergency when a quick result is needed.

Biomaterial	• urogenital swabs • rectal swabs
Equipment	• DTlite or DTprime • CFX96 (Bio-Rad) • Applied Biosystems QuantStudio 5 (Life Technologies)
Analytical sensitivity	5 copies of DNA per amplification tube
Time of analysis	From 30 minutes (without sample preparation)
Number of samples	48 tests, including control samples



Biomaterial collection and sample preparation

Loop-mediated isothermal amplification with real-time results detection

Specialized software – automatic result interpretation

+2 °C ...+ 8 °C
-18 °C ...-22 °C
12 months

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