

# VIASURE MULTIPLEX

*S. agalactiae*, *L. monocytogenes* & *E. coli* Real Time PCR Detection Kit

## Pathogen and product description

**B**acterial meningitis is one type of serious bacterial infection (SBI) in neonates (0 to 28 days old) and young infants (29 to 90 days old). The most common causative organism was group B streptococcus, followed by *Escherichia coli* and then *Listeria monocytogenes*.

*Streptococcus agalactiae*, or group B *Streptococcus* (GBS), is an important pathogen causing invasive infections in neonates and infants. GBS infections in young infants are usually divided into early-onset disease (EOD, 0-6 days old) and late-onset disease (LOD, 7-89 days old).

*Listeria monocytogenes* a gram-positive bacterium and a member of the genus *Listeria*, is a ubiquitous and intracellular pathogen responsible for listeriosis, a fatal disease exhibiting the symptoms of abortion, neonatal death, septicemia, and meningitis. Infection with *Listeria monocytogenes* during pregnancy is associated with miscarriage, preterm birth, and neonatal

complications, including sepsis and meningitis.

*Escherichia coli* frequently causes septicemia and meningitis. However, at present, the pathogenesis of meningitis caused by *E. coli* is only partially understood for two reasons: i) this infectious disease is a complex process formed by multiple bacterial-host interactions, and ii) the high genetic diversity of the pathotypes among neonatal meningitis *E. coli* (NMEC) strains.

VIASURE *S. agalactiae*, *L. monocytogenes* & *E. coli* Real Time PCR Detection Kit is designed for the diagnosis of *S. agalactiae*, *L. monocytogenes* and/or *E. coli* in clinical samples. After DNA isolation, the identification of *S. agalactiae*, *L. monocytogenes* and *E. coli* is performed by the amplification of a conserved region of the *cbf* gene for *Streptococcus agalactiae*, *hlyA* gene for *Listeria monocytogenes* and 16S rRNA gene for *Escherichia coli*, using specific primers and a fluorescent-labelled probe.



THE REAL ONE STEP qPCR



**Analytical sensitivity**

**VIASURE *S. agalactiae*, *L. monocytogenes* & *E. coli* Real Time PCR Detection Kit** has a detection limit of  $\geq 10$  DNA copies per reaction for *S. agalactiae* and *L. monocytogenes* and 2500 DNA copies for *E. coli* (Figures 1, 2 and 3).

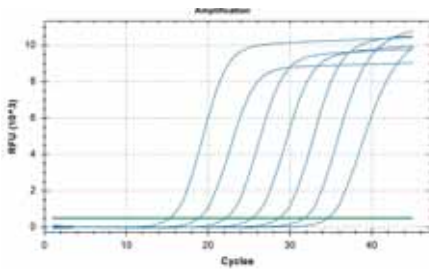


Figure 1. Dilution series of *S. agalactiae* ( $10^7$ – $10^1$  copies/rxn) template run on the Bio-Rad CFX96™ Real-Time PCR Detection System (channel FAM).

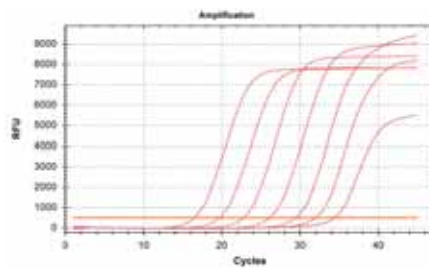


Figure 2. Dilution series of *L. monocytogenes* ( $10^7$ – $10^1$  copies/rxn) template run on the Bio-Rad CFX96™ Real-Time PCR Detection System (channel ROX).

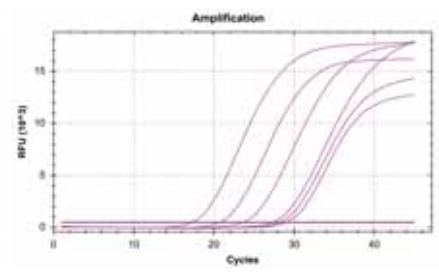


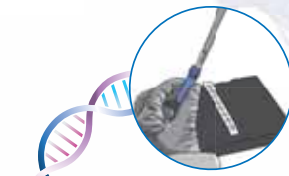
Figure 3. Dilution series of *E. coli* ( $10^7$ – $10^2$ , 5000 and 2500 copies/rxn) template run on the Bio-Rad CFX96™ Real-Time PCR Detection System (channel Cy5).

**Components**

Reagent/Material	Description	Colour	Quantity
<i>S. agalactiae</i> , <i>L. monocytogenes</i> & <i>E. coli</i> 8-well strips	A mix of enzymes, primers-probes, buffer, dNTPs, stabilizers and Internal control in stabilized format	White	6/12 x 8-well strip
Rehydration Buffer	Solution to reconstitute the stabilized product	Blue	1 vial x 1,8 mL
<i>S. agalactiae</i> , <i>L. monocytogenes</i> & <i>E. coli</i> Positive Control	Non-infectious synthetic lyophilized cDNA	Red	1 vial
Negative Control	Non template control	Violet	1 vial x 1 mL
Water RNase/DNase free	RNase/DNase free water	White	1 vial x 1 mL
Tear-off 8-cap strips	Optical caps for sealing wells during thermal cycling	Transparent	6/12 x 8-cap strip

**Work Flow**

One-step rehydration of wells and add your extracted DNA



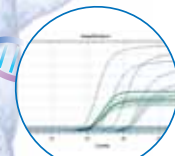
**STEP 1**  
Add 15  $\mu$ l of rehydration buffer into each well



**STEP 2**  
Add 5  $\mu$ l of DNA sample / positive control / negative control



**STEP 3**  
Load the strips into the thermocycler and run the specified protocol



**STEP 4**  
Interpretate results

**Kit References**

Reference	Description
VS-SLE106L	VIASURE <i>S. agalactiae</i> , <i>L. monocytogenes</i> & <i>E. coli</i> Real Time PCR Detection Kit 6 x 8-well strips, low profile
VS-SLE106H	VIASURE <i>S. agalactiae</i> , <i>L. monocytogenes</i> & <i>E. coli</i> Real Time PCR Detection Kit 6 x 8-well strips, high profile
VS-SLE112L	VIASURE <i>S. agalactiae</i> , <i>L. monocytogenes</i> & <i>E. coli</i> Real Time PCR Detection Kit 12 x 8-well strips, low profile
VS-SLE112H	VIASURE <i>S. agalactiae</i> , <i>L. monocytogenes</i> & <i>E. coli</i> Real Time PCR Detection Kit 12 x 8-well strips, high profile
VS-SLE113L	VIASURE <i>S. agalactiae</i> , <i>L. monocytogenes</i> & <i>E. coli</i> Real Time PCR Detection Kit 96-well plate, low profile
VS-SLE113H	VIASURE <i>S. agalactiae</i> , <i>L. monocytogenes</i> & <i>E. coli</i> Real Time PCR Detection Kit 96-well plate, high profile



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