Varizymes®
OPTIONS AMPLIFIED

MS2 Phage

Single-stranded RNA control

Contents

MS2 phage is provided at a concentration of either 1E7 (PN: 6000S) or 1E8 particles/µL (PN: 6000L)

Background

MS2 is an *Escherichia coli* bacteriophage with a single-stranded RNA genome of 3569 nucleotides protected from nuclease degradation by a capsid of 180 coat protein monomers. This virus is a Biosafety Level 1 organism capable of replication in conjugative, F+, "male" *E. coli*. It is not pathogenic to humans and is easily purified from laboratory strains of *E. coli*. These properties make MS2 phage useful as a process control in any nucleic acid-based amplification techniques including reverse transcriptase-PCR and LAMP, particularly for those that involve viral RNA extraction.

Application Notes

For use as a process control in standard RNA extraction and detection protocols such as viral RNA extraction and purification followed by detection by LAMP or RT-PCR.

**These products are intended for research use only, not for diagnostic use. The safety and efficacy of these products in diagnostic or other clinical uses has not been established.*

Shipping & Storage

MS2 phage is stored at 4 °C in 10 mM Tris-HCl, 0.1 mM EDTA, pH 8.0.

MS2 phage is shipped on dry or blue ice. On arrival store at 4 °C for optimum stability. Repeated freeze/thaw cycles should be avoided.

Quality Control

- MS2 phage concentration: After purification, the RNA concentration was assessed by A260nm. Based on this measurement, the samples are diluted and quantified using a TaqMan real-time qRT-PCR assay against a known standard before and after adjustment to the final concentration. Samples and standards have replicate variability <20%.
- MS2 phage is free of detectable RNase and DNase (exo- and endonuclease).
- <0.2 ng contaminating host DNA per 1E8 particles