



Sample Transport & Preservation

Molecular Products

PrimeStore® MTM

CATALOG #: MOL-MTM-VIAL

PrimeStore® Molecular Transport Medium is a patented FDA Class II "microbial nucleic acid storage and stabilization device" (2018). All other inactivating transport medium must show equivalency to PS-MTM.

Invented in 2006, PrimeStore® Molecular Transport Medium was intended for collection, transport, and inactivation of **Influenza A RNA** in infectious nasal fluids and **Mycobacterium tuberculosis DNA** in sputum.



- **Rapidly Inactivate viruses, bacteria, and other pathogens within the sample**
- **Stabilize/Protect RNA, mRNA, and DNA**
- **Increase Sensitivity of Pathogen Detection**
- **Enhance Overall Lysis of samples**
- **Improve complex downstream analysis such as qPCR, qRT-PCR, RNA-Seq and NGS**

Specific sample types (swabs, fluids, solids)

Respiratory samples, stool/feces, urine, saliva, sputum, swine oral fluids, blood, plasma, processing fluids, meat juices, skin & homogenized tissue, soils, liquid & aerosol environmental samples, remnants for biobanking, whole mosquitoes, mask punches

Features and Benefits

- ✓ Sample is **stable at 2-25°C for at least 30 days**. No cold chain transport!
- ✓ Preserves and Protects nucleic acids in summer heat **up to 60°C / 140°F**
- ✓ **Save \$\$\$** = less labor/ less packaging material / No ultralow freezers needed
- ✓ **Eliminates containment** need; samples can be handled in **BSL-1** setting.
- ✓ Eliminates extra inactivation/heating steps that reduce nucleic acid integrity.
- ✓ Works with commonly used spin column and magnetic bead-based extraction.
- ✓ Available in formats: 50 pack of 1.5 mL in 5 mL vial, 1L bottle, 20L box.

References

Interlaboratory comparison of SARS-CoV2 molecular detection assays in use by U.S. veterinary diagnostic laboratories

In Journal of Veterinary Diagnostic Investigation, 2021, 33(6) 1039–1051.

PrimeStore®MTM was the chosen medium to protect genomic RNA template stock dilutions used as basis for RT-rtPCR comparisons.

Effect of Swab Type, Collection Media, and Storage on the Detection of Influenza a Virus in Porcine Nasal Secretions.

In AAVLD Annual Conference Proceedings, 2010 Nov: Minneapolis, MN.

PS-MTM allowed detection of influenza RNA in samples from pigs at 5 dpi when shedding is decreased or non-detectable by VI or PCR.

Laboratory evaluation of a specimen transport medium for downstream molecular processing of sputum samples to detect *Mycobacterium tuberculosis*

In Journal of Microbiological Methods, 2015, 117 (57–63).

Results: Complete inactivation of *M. tuberculosis* occurred within 30 min of exposure at a ratio of 1:3 for sputum to PS-MTM.

Sputum specimen in PS-MTM showed very good compatibility with automated bead-based extraction systems. Furthermore,

PS-MTM samples remained stable over 28 days at ambient temperature displaying no significant change over time in Ct values.

Xpert® MTB/RIF detection of *Mycobacterium tuberculosis* from sputum collected in molecular transport medium

In The International Journal of Tuberculosis and Lung Disease, 2016, Volume 20(8) 1118–1124.

PS-MTM enhances detection 10-fold in samples containing low cfu/ml and improves the overall PCR efficiency of the Xpert assay.

A Novel Processing-Free Method for RNAseq Analysis of Spontaneous Sputum in Chronic Obstructive Pulmonary Disease (COPD)

In Frontiers in Pharmacology, 2021 Aug, Volume 12: Article 704969.

PS-MTM protects RNA for sensitive downstream analyses.

PrimeStore® MTM has been demonstrated to completely inactivate **viruses** (Influenza A, SARS-CoV-2, Adenovirus, Foot and Mouth Disease, African Swine Fever, and Blue Tongue), **bacteria** (*Mycobacterium tuberculosis*, *E. coli*, MRSA, and *P. aeruginosa*), **fungi** (*C. albicans*, *A. niger*), and **parasites** (*Cryptosporidium*, *Giardia*, *Plasmodium malariae*, helminths).

Multiple studies have demonstrated that PrimeStore® MTM reduces Bacillus spores by three to four logs. Samples suspected of containing spores should be treated as though viable spores remain.

The COVID-19 pandemic has shown PrimeStore® MTM to be an invaluable tool in safe collection and transit of SARS-CoV-2 samples. PS-MTM has been used by USDA-FADDL and FLI in Germany for samples containing ASFv, CSFv, FMDv, and offers benefit for control and surveillance of many other animal pathogens including HPAI, Swine Influenza, PEDV, and EHV.

