

Protocol for Short-Term evaluation of Biomatrix Sample Stabilization Technology

Stability Test: Temperature Stress

Biomatrix, Inc. offers multiple products for dry storage of biological material. SampleMatrix is used for DNA (plasmid or genomic), Clonestable is used for bacterial lysate and RNAstable is used for RNA (total or mRNA).

Test Sample Types: Purified Genomic DNA, Purified Plasmid DNA, *E.coli* lysates (for DNA retention only) and/or purified total RNA or Poly(A) mRNA

Test Concentrations:

Genomic DNA: use ≥ 20 ng

Plasmid DNA: use ≥ 1 ng

RNA: use ≥ 100 pg

E. coli lysate: use 20ul of overnight culture

Five conditions:

1. Control: Traditional Cold Storage (Liquid Nitrogen, -80 °C, -20 °C or 4 °C)
2. Ambient Room Temperature, in Biomatrix technology
3. Ambient Room Temperature, unprotected
4. Stress, 50°C , in Biomatrix technology
5. Stress, 50°C , unprotected

Protocol: (See individual Biomatrix manuals for specific handling of samples stored in SampleMatrix/Clonestable/RNAstable)

1. Quantitate samples before test begins.
2. Spectrophotometer (DNA, RNA; blank with reconstituted DNA sample matrix or RNAstable, respectively) or qPCR/qRT-PCR (DNA, RNA), OD600 (*E. coli* lysate)
3. Apply biological samples in identical manner to Biomatrix technology, unprotected and for conventional cold storage conditions (eg. spot 20ul *E. coli* lysate per Clonestable well, 20ul in empty unprotected well and make 20ul glycerol stock solutions for -80°C storage)
4. Store samples for three to four weeks, in triplicate (preferred) in the five different conditions listed above.
5. Recovery (See Biomatrix Protocols for handling of samples stored in SampleMatrix/Clonestable/RNAstable)