

105.8 - DNA Profiling and Nucleic Acid Materials

Standard Reference Material (SRM) 2372a is intended primarily for use in the value assignment of human genomic deoxyribonucleic acid (DNA) forensic quantitation materials. SRM 2372a consists of three well-characterized human genomic DNA materials in pH 8.0 aqueous buffer. The components are derived from human buffy coat samples and labeled A, B, and C. Component A consists of genomic DNA from a single male donor. Component B consists of genomic DNA from a single female donor. Component C consists of a gravimetric mixture of genomic DNA (1 part male donor to 3 parts female donor). SRM 2372a is certified for copy number and DNA concentration (ng/μL). A unit of the SRM consists of one sterile 0.5 mL vial of each component, each vial containing approximately 50 μL of DNA solution. Each of these vials is labeled and is sealed with a color-coded screw cap.

SRM 2374 is intended for use as a template for ribonucleic acid (RNA) control synthesis using in vitro transcription (IVT). These RNA controls are designed to be used as external, or “spike-in”, controls to support confidence in gene expression assays by providing quantitative assessment of the technical performance of a gene expression measurement. A unit of the SRM contains 96 different 0.5 mL polypropylene tubes, with approximately 10 μg of dehydrated plasmid deoxyribonucleic acid (DNA) in each tube. Depending on the strand transcribed, the controls will mimic either “sense” or “anti-sense” eukaryotic messenger RNA (mRNA).

RMs 8366, 8375, 8391, 8392, 8393, and 8398 are intended for assessing performance of human genome sequencing, including whole genome sequencing, whole exome sequencing, and more targeted sequencing such as gene panels. Specifically, the material can be used to obtain estimates of true positives, false positives, true negatives, and false negatives for variant calls.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

| SRM | Description | Unit of Issue |
|-----------------------------|--|-------------------------------|
| 2365 | BK Virus DNA Quantitative Standard | 1 vial x 110 μL |
| 2366a | Cytomegalovirus DNA (Towne _{Δ147} BAC) for DNA Measurements | 1 vial x 150 μL |
| 2367 | JC Virus DNA Quantitative Standard | 1 tube x 110 μL |
| 2372a | Human DNA Quantitation Standard | 3 vials x 50 μL |
| 2373 | Genomic DNA Standards for <i>HER2</i> Measurements | 5 vials, 1 each level |
| 2374 | DNA Sequence Library for External RNA Controls | 96 tubes, 1 each |
| 2391d | PCR-Based DNA Profiling Standard | 5 vials, 1 each |
| 2393 | CAG Repeat Length Mutation in Huntington's Disease | set (6) |
| 2917 | Plasmid DNA for Fecal Indicator Detection and Identification | 6 tubes, 1 each level |
| 8230 | <i>Saccharomyces cerevisiae</i> NE095 Cells for Cell Counting and DNA-based Detection (freeze dried) | 16 vials (12 yeast, 4 matrix) |
| 8366 | <i>EGFR</i> and <i>MET</i> Gene Copy Number Standards for Cancer Measurements | 6 vials, 1 each |
| 8375 | Microbial Genomic DNA Standards for Sequencing Performance Assessment (MG-001, MG-002, MG-003, MG-004) | 4 vials, 1 each |
| 8376 | Microbial Pathogen DNA Standards for Detection and Identification | 20 tubes, 1 each |
| 8391 | Human DNA for Whole-Genome Variant Assessment (Son of Eastern European Ashkenazi Jewish Ancestry) (HG-002) | 1 vial |
| 8391(QTY10) | Human DNA for Whole-Genome Variant Assessment (Son of Eastern European Ashkenazi Jewish Ancestry) (HG-002) | 10 vials of RM 8391 |
| 8392 | Human DNA for Whole-Genome Variant Assessment (Family Trio of Eastern European Ashkenazi & Jewish Ancestry) (HG-002, HG-003, HG-004) | 3 vials, 1 each |
| 8393 | Human DNA for Whole-Genome Variant Assessment (Son of Chinese Ancestry) (HG-005) | 1 vial |
| 8393(QTY10) | Human DNA for Whole-Genome Variant Assessment (Son of Chinese Ancestry) (HG-005) | 10 vials of RM 8393 |
| 8398 | Human DNA for Whole-Genome Variant Assessment (Daughter of Utah/European Ancestry)(HG-001) | 1 vial |
| 8398(QTY10) | Human DNA for Whole-Genome Genome Variant Assessment (Daughter of Utah/European Ancestry) (HG-001) | 10 vials of RM 8398 |