

105.8 - DNA Profiling and Nucleic Acid Materials, and Monoclonal Antibody

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 55 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).

SRM 2392 is intended to provide quality control when performing the polymerase chain reaction (PCR) and sequencing of human mitochondrial DNA (mtDNA) for forensic identifications, medical diagnosis, or mutation detection. It may also be used as a control when amplifying (PCR) and sequencing any DNA. SRM 2392 Mitochondrial DNA Sequencing contains DNA extracted from two cell lines plus cloned DNA from a region that is difficult to sequence. The certificate accompanying the SRM details the base pair sequences of the DNA, and the sequences of 58 unique primer sets which permit the amplification and sequencing of any specific area or the entire human mitochondrial DNA (strand). SRM 2392 consists of three frozen components packaged in one box. For further information see: [SRM 2392](#).

SRM 2392-1 Mitochondrial DNA Sequencing complements and adds another DNA template to SRM 2392 for the amplification and sequencing of human mtDNA. The selection of the HL-60 cell culture line for this additional DNA template was based on a suggestion from the Federal Bureau of Investigation (FBI) that this DNA would be particularly useful to the forensic community. For further information see: [SRM 2392-1](#).

RM 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.

RM 8671 is intended primarily for use in evaluating the performance of methods for determining physicochemical and biophysical attributes of monoclonal antibodies. It also provides a representative test molecule for development of novel technology for therapeutic protein characterization.

SRM	2365	2366a	2372a	2373	2374	2391d	2392	2392-1	2393	2396	8366	8375	8391	8391(QTY10)	8392
Description	BK Virus DNA Quantitative Standard	Cytomegalovirus DNA (Townes 147 BAC) for DNA Measurements	Human DNA Quantitation Standard	Genomic DNA Standards for <i>HER2</i> Measurements	DNA Sequence Library for External RNA Controls	PCR-Based DNA Profiling Standard	Mitochondrial DNA Sequencing (Human)	Mitochondrial DNA Sequencing (Human HL-60 DNA)	CAG Repeat Length Mutation in Huntington's Disease	Oxidative DNA Damage Mass Spectrometry Standards	<i>EGFR</i> and <i>MET</i> Gene Copy Number Standards for Cancer Measurements	Microbial Genomic DNA Standards for Sequencing Performance Assessment (MG-001, MG-002, MG-003, MG-004)	Human DNA for Whole-Genome Variant Assessment (Son of Eastern European Ashkenazi Jewish Ancestry) (HG-002)	Human DNA for Whole-Genome Variant Assessment (Family Trio of Eastern European Ashkenazi Jewish Ancestry) (HG-002)	Human DNA for Whole-Genome Variant Assessment (Family Trio of Eastern European Ashkenazi Jewish Ancestry) (HG-002, HG-003, HG-004)
Unit of Issue	(1 vial x 110 μL)	(1 vial x 150 μL)	(3 vials x 55 μL)	(5 vials, 1 each level)	(96 tubes)	(5 vials)	(set (3))	(each)	(set (6))	(set (10))	(6 vials, 100 μL each)	(4 vials, 1 each)	(1 vial)	(10 vials of RM 8391)	(3 vials, 1 each)

- Certified values are normal font
- Reference values are italicized
- Values in parentheses are for information only

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SRM 2392-I Mitochondrial DNA Sequencing complements and adds another DNA template to SRM 2392 for the amplification and sequencing of human mtDNA. The selection of the HL-60 cell culture line for this additional DNA template was based on a suggestion from the Federal Bureau of Investigation (FBI) that this DNA would be particularly useful to the forensic community. For further information see: [SRM 2392-I](#).

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RM 8671 is intended primarily for use in evaluating the performance of methods for determining physicochemical and biophysical attributes of monoclonal antibodies. It also provides a representative test molecule for development of novel technology for therapeutic protein characterization.

8393	8393(QTY10)	8398	8398(QTY10)	8671
Human DNA for Whole-Genome Variant Assessment (Son of Chinese Ancestry) (HG-005)	Human DNA for Whole-Genome Variant Assessment (Son of Chinese Ancestry) (HG-005)	Human DNA for Whole-Genome Variant Assessment (Daughter of Utah/European Ancestry)(HG-001)	Human DNA for Whole-Genome Variant Assessment (Daughter of Utah/European Ancestry) (HG-001)	NISTmAb, Humanized IgG1κ Monoclonal Antibody
(1 vial)	(10 vials of RM 8393)	(1 vial)	(10 vials of RM 8398)	(1 vial x 800 uL)

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