

Advanta Sample ID Genotyping Panel

Maintain sample identity throughout the workflow



Sample identity and the integrity of the genomic data are critical for execution of superior research. Particularly with complex, multiphase studies, aliquots from a single specimen may be shared among researchers within a laboratory or with external collaborators and service providers. From high-throughput genomics centers to biorepositories or centralized cell line banks, ensuring accurate sample tracking and quality from acquisition through data reporting is a universally recognized priority.

The Advanta™ Sample ID Genotyping Panel is a 96-SNP assay enabling laboratories to generate a sample-specific genetic fingerprint and quality assessment from research specimens throughout the sample journey. Developed for use with the Biomark™ HD system and based on Fluidigm microfluidics, the workflow uses integrated fluidic circuits (IFCs) to precisely combine multiple reactions at nanoliter volumes. The Advanta Sample ID Genotyping Panel delivers performance you can trust with workflow efficiencies that minimize hands-on time and reagent consumption.

Highlights

Powerful—Monitor the identity and quality of each sample using 96 informative SNPs, including 80 exonic SNPs providing utility for numerous genomic analysis applications.

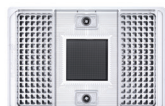
Flexible—Easily add new targets for specific sample populations to customize.

Efficient—Maximize laboratory resources with walkaway automation and minimize costs with nanoliter-scale reaction volumes and by reducing superfluous testing of low-quality samples.

Advanta Sample ID workflow and the Biomark HD advantage



1
Prepare samples and assays.



2
Transfer samples and assays to the IFC.



3
Process the IFC using the automated Juno™ system.



4
Perform real-time PCR and data acquisition using Biomark HD.



5
Analyze results.

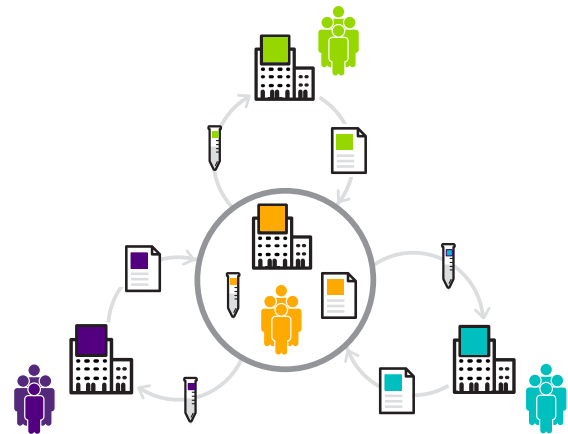
Figure 1. The Advanta Sample ID workflow, from sample preparation through data analysis. With just 30 minutes of hands-on time, 96 samples can be processed in approximately 4 hours.

Potential journey of samples

Handling errors can occur before or after samples enter the molecular laboratory or storage facility and during the transfer of samples among collaborating researchers or service providers.

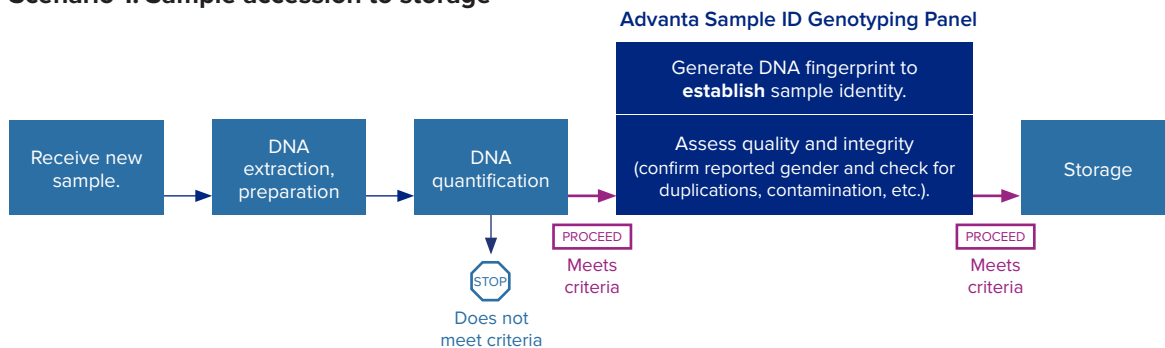
Implementation of the Advanta Sample ID Genotyping Panel as a routine sample processing workflow enables confirmation of each sample's identity and quality prior to sample accession and at various stages of the sample journey.

Figure 2. Hypothetical journey of samples throughout the course of a research study. Specimens may be passed among individuals within a laboratory or to collaborating institutions.

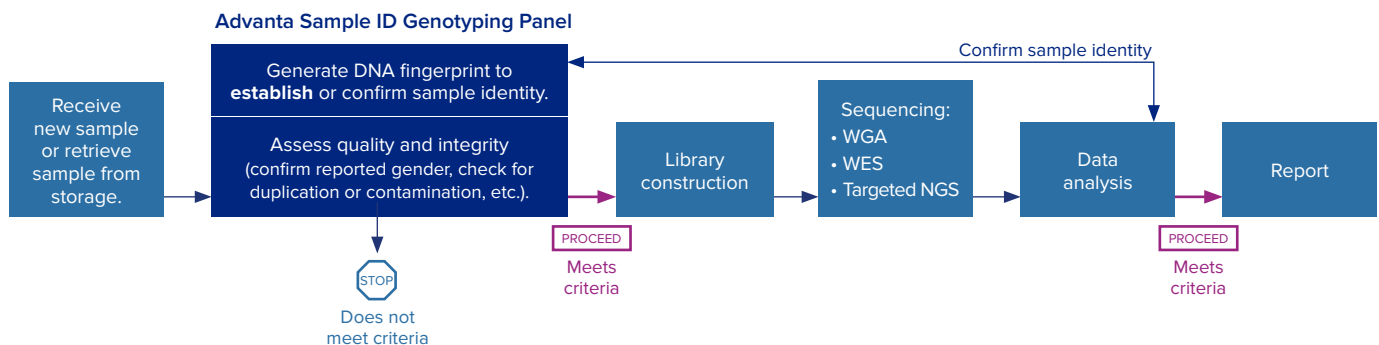


Laboratory use cases for sample identification and quality assessment

Scenario 1: Sample accession to storage



Scenario 2: Sample check prior to NGS analysis



Scenario 3: Sample check prior to distribution

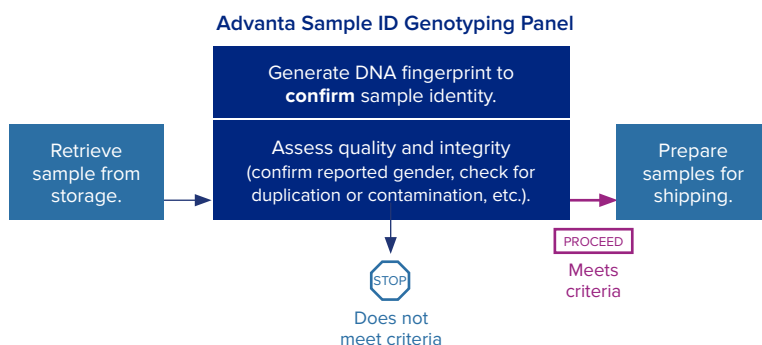


Figure 3. Examples of laboratory use cases incorporating a sample identity and quality assessment as a component of the workflow. Pass/fail criteria and/or interpretation are determined by the user.

Advanta Sample ID Genotyping Panel SNPs

The 96-SNP Advanta Sample ID Genotyping Panel was designed for use in multiple genomic analysis applications. With 80 SNPs located in exonic regions, the panel is compatible with several commercially available target enrichment and microarray-based products. The Advanta Sample ID Genotyping Panel can be an informative component in several key workflows, including whole genome and exome sequencing, targeted NGS and microarray-based genotyping.

Advanta Sample ID Genotyping Panel SNP List

SNP ID	Q	G	P	HP	HE
rs952718	✓				
rs7803075	✓				
rs9319336	✓				
rs2397060	✓				
rs1344870	✓				
rs2946788	✓				
rs6591147	✓				
rs2272998	✓				
rs7229946	✓				
rs9951171	✓				
rs525869		✓			
rs530501		✓			
rs2040962		✓			
rs2032624		✓			
rs1865680		✓			
rs17307398		✓			
rs3795366				✓	
rs2460111			✓		
rs1675126				✓	
rs1061629			✓		✓
rs538847				✓	
rs76432344				✓	✓
rs3750390			✓		
rs1624844				✓	
rs3803390			✓		
rs2293768			✓		
rs9358890			✓		
rs11197835			✓		
rs1806191				✓	
rs7953			✓		✓
rs3736757				✓	✓
rs2940779			✓		
rs7522034			✓		✓
rs6107027			✓		✓
rs2275059			✓		
rs3746805			✓		
rs4953042			✓		✓
rs3817098			✓		
rs6965201			✓		
rs5998				✓	
rs7259333			✓		
rs1802778			✓		✓
rs907157			✓		
rs8064024				✓	✓
rs3749970			✓		
rs7933089				✓	✓
rs2292745			✓		
rs1799932			✓		
rs4078313			✓		
rs2266918				✓	
rs805423			✓		✓
rs540261				✓	✓
rs3734586			✓		✓
rs3753886			✓		✓
rs3210635			✓		✓
rs2294024				✓	
rs3812471			✓		✓
rs7786497			✓		
rs1128933				✓	✓
rs4656			✓		✓
rs238148			✓		✓
rs2074265			✓		✓
rs11274			✓		✓
rs10069050			✓		✓
rs3736510			✓		✓
rs2304891				✓	✓
rs9482			✓		✓
rs1137930				✓	✓
rs1058486			✓		✓
rs27529				✓	✓
rs3177137				✓	✓
rs1043615				✓	✓
rs1054975				✓	✓
rs1060817				✓	✓
rs2232818			✓		✓
rs2273235			✓		✓
rs11054				✓	✓
rs2236277				✓	✓
rs2293250				✓	✓
rs3182911				✓	✓
rs4799				✓	✓
rs13030				✓	✓
rs547497				✓	✓
rs13180				✓	✓
rs957448			✓		✓
rs3108237				✓	✓
rs164572				✓	✓
rs2175593				✓	✓
rs2306641				✓	✓
rs1594				✓	✓
rs7300444				✓	✓
rs1057908				✓	✓
rs2152092				✓	✓
rs2358996				✓	✓
rs4075325				✓	✓
rs1057925				✓	✓

Q: Quality **G:** Gender **P:** Population **HP:** Highly polymorphic **HE:** Highly expressed

Table 1. SNP list for Advanta Sample ID Genotyping Panel. This 96-assay set includes 10 quality assessment SNPs, 6 gender SNPs, 40 exonic SNPs for population prediction (African, East Asian or European) and 40 exonic highly polymorphic SNPs with minor allele frequency (MAF) near 0.5 across the 3 population groups. SNPs that are in highly expressed exons are also identified.

Samples analyzed and IFCs processed

When using the Advanta Sample ID Genotyping Panel, the total number of samples analyzed depends on the platforms and workflow selected by the user.

Total number of samples analyzed and IFCs processed using the Advanta Sample ID Genotyping Panel with the Biomark HD workflow.

Total Samples Analyzed	IFC Type	Workflow	Total IFCs Processed
24,000	96.96 Dynamic Array IFC for Genotyping (Part number: BMK-M-96.96GT)	Without preamplification	250
9,600		With preamplification	100



Total number of samples analyzed and IFCs processed using the Advanta Sample ID Genotyping Panel with the Biomark HD workflow including Juno for IFC loading.

Total Samples Analyzed	IFC Type	Workflow	Total IFCs Processed
14,400	Juno 96.96 Genotyping IFC (Part number: 100-6499)	With integrated preamplification	150



Ordering information

Each Advanta Sample ID Genotyping Panel is made to order and includes three plates containing allele-specific primers (ASPs), locus-specific primers (LSPs) and specific target amplification (STA) primers. The STA primers are used with preamplification workflows. IFCs and other ancillary reagents and consumables are sold separately. Please inquire with your sales representative for ordering.

Product	Part Number	Contents
Advanta Sample ID Genotyping Panel	101-7773	<ul style="list-style-type: none">• 1 x ASP Plate• 1 x LSP Plate• 1 x STA Plate



Learn more at

fluidigm.com/sampleid

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