SNPtype™ Assays

Fluidigm SNPtype Assays provide a high-throughput, low-cost single nucleotide polymorphism (SNP) genotyping solution which enables rapid assay design and polymorphism screening. The assays are based on allele-specific PCR SNP detection chemistry and combine the advantages of minimum experimental setup time and flexible assay choice with the reliability of Dynamic Array™ integrated fluidic circuits (IFCs).

Low costs and high reproducibility are critical for high sample throughput applications including production-scale SNP genotyping and screening studies. SNPtype Assays employ tagged, allele-specific PCR primers and a common reverse primer. A universal probe set is used in every reaction, producing uniform fluorescence while significantly reducing both startup and running costs. The assays provide excellent results on Dynamic Array IFCs and are formatted to work directly with existing workflows. Unlike other vendors, we provide the locus-specific primer sequences with all orders, confirming target locations and assuring reproducibility between laboratories.

SNPtype Assays work seamlessly with the EP1™ or the BioMark™ HD Systems. When used in conjunction with the FC1™ Cycler, rapid thermal cycling is achievable, allowing faster time-to-results which greatly increases sample throughput.

PRODUCT DETAILS

- Designed to target species with available sequence information
- Three–four week design and turnaround time with customer-provided sequences (minimum of 24 assays per order)
- Primers sufficient for hundreds of 96.96 IFCs; 96-well plate format
- Access to locus-specific primer sequences assures reproducibility
- Compatible with Specific Target Amplification (STA) protocol for improving results from samples of low quality and/or concentration, or from species with large genome sizes (>human); necessary STA primers provided
WORKFLOW

1. Assay Design
   Fluidigm SNPtype Assays are designed for Dynamic Array IFCs.

2. Prime
   Prime the IFC to prepare for samples and assays.

3. Transfer
   Transfer samples and assays into separate inlets on the IFC.

4. Load
   Place the IFC on the IFC Controller to automatically set up reaction chambers.

5. Thermal Cycle
   Place the IFC onto the FC1 Cycler and start the PCR protocol.

6. Read
   Place the IFC on the EP1 Reader or BioMark HD Reader for fluorescence detection.

7. Analyze
   Use analysis software to view and interpret results.

PRODUCT SPECIFICATIONS*

- Insertion/deletion (indel) polymorphisms and repeat sequences excluded
- Sample concentrations of ≥60 nanograms per microliter of human genome size equivalent required
- Assay conversion rate >85%; success rate >80% for sequences with <65% GC content
- Average call rate >98%; average call accuracy >99% (high-quality DNA)
- Performance does not apply to SNPs in copy number variant regions

ORDERING INFORMATION

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<th>Product</th>
<th>P/N</th>
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<tr>
<td>SNPtype Assays</td>
<td>ASY-GT</td>
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<tr>
<td>SNPtype Genotyping Reagent Kit</td>
<td>100-3673</td>
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FLUIDIGM SOLUTIONS FOR GENETIC ANALYSIS

- SNPtype™ Assays
  Custom assays designed for the BioMark™ HD and EP1™ Systems

- Dynamic Array™ IFCs
  Consumable IFCs for high-throughput gene expression analysis and SNP genotyping

- Digital Array™ IFCs
  Consumable IFCs for digital PCR

- BioMark HD Reader
  Integrated hardware/software for gene expression, genotyping and digital PCR using IFCs

- EP1 Reader
  Integrated hardware/software for genotyping and digital PCR using IFCs

- IFC Controller
  Integrated hardware/software for loading IFCs

- FC1™ Cycler
  Integrated hardware/software for thermal cycling of IFCs

- Software Suite
  Analysis software for SNP genotyping analysis

* Technical Definitions

Conversion rate: Ability to design an assay
Call rate: Ability to make an automatic software call and up to 10% manual call
Call accuracy: Matches True SNP, TaqMan® / HapMap
Success rate: Number of assays that meet defined performance / total assays designed

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FOR RESEARCH USE ONLY.

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