

## Fragment Analysis Services

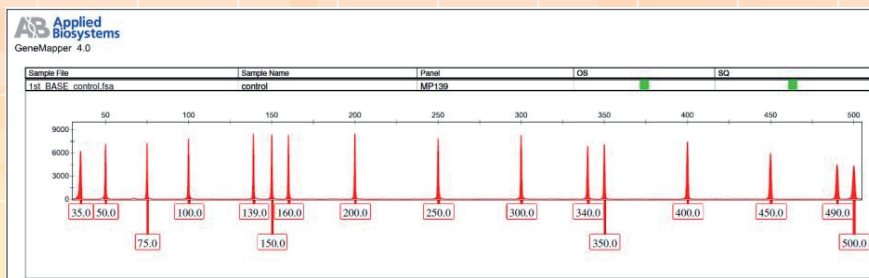


Fragment analysis is used to describe genetic marker analysis experiments which rely on detection of changes in the length of a specific DNA sequence to indicate the presence or absence of a genetic marker. In genetic marker analysis, the sequence of the gene is not directly analyzed. Genetic markers are usually polymorphic genetic sequences contained in or near an allele of interest, such as microsatellite or RFLPs, which allow the chromosomal alleles to be distinguished.

We offer DNA Fragment Analysis services where fluorescently labeled fragments are detected using our Applied Biosystems Genetic Analyzer and then interpreted using the GeneMapper® v4.0 analysis software. DNA fragments between 50 – 500bp may be sized to a single-nucleotide resolution.

### Key Features

- 1 We are using 500-ROX (for Dye Set D) DNA Size Standard. It consists of 16 DNA fragments, ranging in 35, 50, 75, 100, 139, 150, 160, 200, 250, 300, 340, 350, 400, 450, 490 and 500 bp. Each band is single-stranded and fluorescently labeled with ROX and the size fragments are evenly distributed for very accurate size calling.



- 2 High throughput and medium throughput of Genetic Analyzers are both available for use in our Fragment Analysis services:
  - ABI3730XL (50cm 96-capillary, 1 hour complete 95 loadings, POP7)
  - ABI3100 (50cm 16-capillary, 1 hour complete 15 loadings, POP7)

- 3 We support Dye Sets D and G5.

Dye Set D	Dye	Colour
	FAM	BLUE
	VIC/HEX/JOE	GREEN
	NED/TAMRA	YELLOW
	ROX (Size Standard)	RED

Dye Set G5	Dye	Colour
	FAM	BLUE
	VIC/HEX/JOE	GREEN
	NED/TAMRA	YELLOW
	PET	RED
	ROX	RED
	LIZ (Size Standard)	ORANGE

- 4 Labeled primers may be ordered with Integrated DNA Technologies (IDT).

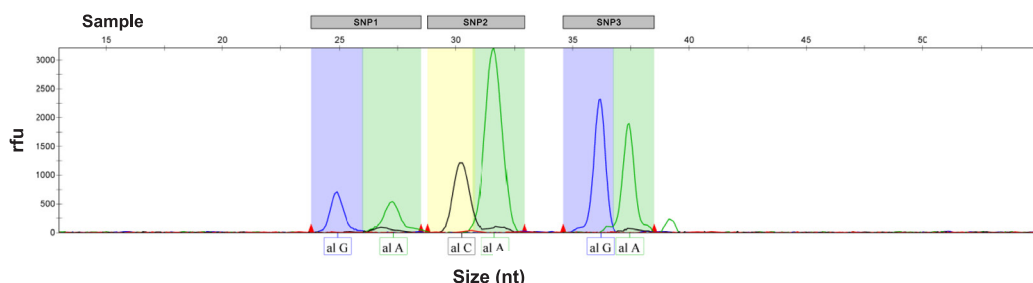
**NEW**

**SNaPshot® Genotyping** is a primer extension-based technique that enables multiplexing of several single nucleotide polymorphisms (SNPs) at known locations in one single tube.

The chemistry behind this technology is based on the dideoxy single-base extension of unlabeled primer; the primer binds to the complementary template in the presence of fluorescently labelled ddNTPs and AmpliTaq DNA polymerase. The polymerase extends the primer by 1 nucleotide, adding a single ddNTP to its 3' end.

Genotypes	Fluorescence		
	SNP1	SNP2	SNP3
wt/wt	24G (Blue)	29C (Black)	38G (Blue)
wt/mutant	24G (Blue) and 24A (Green)	29C (Black) and 29A (Green)	38G (Blue) and 38A (Green)
mutant/mutant	24A (Green)	29A (Green)	38A (Green)

In one genotyping result, you will see three genes' peaks.



# Fragment Analysis Service Specifications

Product No.	Service Name and Description	Turnaround Time / Remarks
<b>SS3001</b>	<b>Fragment Analysis with Run Report</b> <ul style="list-style-type: none"> <li>Customers to perform PCR reactions and clean-up.</li> <li>1st BASE to perform electrophoresis, data extraction &amp; data analysis with the provided fragment sizes.</li> </ul>	3-4 working days.
<b>SS3012</b>	<b>Fragment Analysis with Run Report, without spectral optimization</b> <ul style="list-style-type: none"> <li>Customer to dilute samples to the appropriate concentration prior to submission.</li> <li>1st BASE takes 2uL of the diluted DNA for electrophoresis.</li> </ul>	1-2 working days Dilution is typically between 1uL:3uL – 1uL:90uL (PCR template:dH2O)
<b>SS3016</b>	<b>Fragment Analysis Ready-to-load with Run Report</b> <ul style="list-style-type: none"> <li>Customers to mix appropriate amounts of PCR template, size standard, and Hi-Di Formamide prior to submission.</li> <li>1st BASE loads the mixture to Genetic Analyzer directly.</li> </ul>	1 to 2 working days We only accept Applied Biosystems (ABI) ROX-500 or LIZ-500 size standards.
<b>SS3020</b>	<b>Singleplex SNaPshot® assay development <i>NEW</i></b> <ul style="list-style-type: none"> <li>Customer to provide purified gDNA for PCR optimization.</li> <li>PCR Primers and SNaPshot® Probe will be designed and synthesized by 1st BASE.</li> </ul>	1 to 2 weeks
<b>SS3021</b>	<b>SNaPshot® reaction <i>NEW</i></b> <ul style="list-style-type: none"> <li>Clean-up and followed by Fragment Analysis with Run Report</li> <li>Customers to provide the probe sequence and the purified PCR products that contained the SNP/PCR products from SS3020.</li> <li>SNaPshot Probe will be synthesized by 1st BASE. 1st BASE to perform SNaPshot® reaction, clean-up followed by Fragment Analysis using GeneScan-120 Liz size standard and Hi-Di Formamide.</li> </ul>	1 week
<b>SS3022</b>	<b>SNaPshot® Ready-to-Load <i>NEW</i></b> <ul style="list-style-type: none"> <li>by Fragment Analysis with Run Report</li> <li>Customers to provide mixture of purified SNaPshot® product with mixture of GeneScan-120 Liz size standard and Hi-Di Formamide.</li> <li>1st BASE to perform loading directly onto Genetic Analyzer</li> </ul>	2 working days We only accept Applied Biosystems (ABI) GS120 LIZ size standards ranging in 15, 20, 25, 35, 50, 62, 80, 110 and 120 bp.
<b>SS3023</b>	<b>PCR Reaction</b> using the Optimized Protocol obtained from SS3020. Includes all PCR reagents and Purification	3 to 5 working days

## Data Output

Soft copies of .fsa file and .pdf Run Report will be sent through e-mail. Print-outs of coloured of .fsa file and Run Report available at separate charge. Please enquire.



Samples may be submitted in tubes, strips or plates.

For details on how to order, please visit: [http://www.base-asia.com/fragment\\_analysis/](http://www.base-asia.com/fragment_analysis/)

For orders and enquiries, please contact our local distributor