

# Chromous Seeds



Your Partner in Seed Testing



Catalogue 2011-12

## **Chromous Seeds Introduces**

- **Plant Molecular Biology Services**
- **Genotyping Services**
- **Real-Time PCR Services**

## Plant Molecular Biology Services

<b>Screening for Transgenic plants</b>	Genomic DNA isolated	CSS 08 <10 plants
	Specific Primers developed	CSS 09 <100 plants
	PCR based detection with internal PCR controls	CSS 10 <1,000 plants
<b>Transgene Copy No. detection</b>	Copies of genes inserted within transgenic genome	RTP 01
	Relative quantification based on house-keeping gene copy no.	
	Performed in triplicates	
	Sybr Green based protocol	
<b>Point of Integration detected</b>	Flanking regions cloned and sequenced	CSS 07
	Site of integration identified	
	Sequence data provided	
<b>Zygoty tests developed</b>	Based on flanking sequence data (Service CSS 07)	CSS 11
	Zygoty test protocols for novel transgenic plants developed and validated	
	For Parental seed purity testing	

<b>Hybrid Seed Purity Tested</b>	Ready protocol for Bt-cotton A batch consists is of 100 individual seeds Percentage of impurity (parental seeds, other non-Bt hybrid seeds, etc.) detected Reproducible upto $\pm 1\%$ error Fast protocol, can test upto 100 independent batches per day	CSS 12
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## Genotyping Services

<b>Development of Microsatellite Library</b>	Microsatellite library from for any organism	SSR 01 (20 Markers)
	20, 30, 40 or 50 Markers are developed, Charges vary	SSR 02 (30 markers)
	Marker specific primers designed and PCRs standardized	SSR 03 (40 markers)
	All marker sequence data, primer-pairs and protocols delivered	SSR 04 (50 markers)
<b>Genotyping by SSR/ STR analysis</b>	Once the Microsatellite marker data is available (Service Cat. # SSR 01), genotyping can be initiated	SSR 05 (<100 markers)
	STR specific PCR reactions are standardized Genomic DNA isolated from individual sample STR specific PCRs performed using fluorescent primers	SSR 06 (<1,000 markers)
	PCR amplicons are sized on a Genetic analyzer Studying 5 markers in 100 plants, No. of markers is calculated as: $100 \times 5 = 500$ markers Synthesis of Fluorescent primers and PCR standardization are charged extra	SSR 07 (>1,000 markers)
<b>Fragment Analysis by GeneMapper/ GeneScan</b>	Fluorescent-tagged PCR products are sized on Capillary Sequencer	STR 01 (<100markers)
	Compatible dyes: FAM, NED, VIC, PET, Sizing Standard (LIZ-500) Services include: Performing PCR amplification, multiplexing (upto 5 Markers), Adding LIZ-500, Sample denaturation, Sample Run and Sizing fragments.	STR 02 (<1,000markers)
	Sizing data and Chromatogram are provided. Min. 4 markers are multiplexed and run together.	STR 03 (>1,000markers)

## Genotyping Services

<p><b>Genotyping by AFLP</b></p>	<p>Polymorphism analyses within segregating populations, varieties, strains, etc.;</p> <p>Complete protocol starting from gDNA isolation to selective PCRs;</p> <p>Guaranteed polymorphism;</p> <p>Fluorescent selective primers are charged extra</p>	<p>AFLP 01</p>
<p><b>AFLP Fragment Analysis</b></p>	<p>Fluorescent-labeled AFLP profiles analyzed</p> <p>Compatible dyes: FAM, NED, VIC, PET, Sizing Standard (LIZ-500)</p> <p>Pair-wise sizing data, phylogenetic tree and Chromatogram provided.</p>	<p>AFL 01</p>
<p><b>Genotyping by RAPD (Non-Fluorescent primer)</b></p>	<p>RAPD analysis using 20-mer primer</p> <p>Annealing at 55°C, thus reproducible profiles</p> <p>20-30 bands on profile</p> <p>Polymorphism generated within closely related samples as well</p> <p>Primer information, Agarose gel photo, etc. provided</p> <p>Phylogeny analyses is difficult</p>	<p>RAPD 01</p>
<p><b>Genotyping by RAPD (Fluorescent primer)</b></p>	<p>RAPD analysis using fluorescent labeled 20-mer primer</p> <p>Annealing at 55°C, thus reproducible profiles</p> <p>RAPD profile analyzed on Genetic Analyzer</p> <p>50-75 bands on profile</p> <p>Polymorphism generated within closely related samples as well</p> <p>Phylogeny analyses is assured</p>	<p>RAPD 02</p>

<b>Genotyping Service</b>	<b>Specifications</b>	<b>Catalogue</b>
<b>Development of ARMS Marker</b>	Distinguishes two similar genotypes  RAPD based polymorphism detected  Polymorphic bands cloned and sequenced  Primer-sets specific to a genotype developed and validated.	ARMS 01
<b>Development of SCAR Markers</b>	Genotyping of closely related samples  Polymorphic RAPD profiles are developed for each sample  Sample specific markers/ primer-sets are designed and Genotypes are validated.	DSP 01
<b>Genotyping by SNP Analysis</b>	Genes or exons are screened for SNPs  Sequence-specific primers developed  All genes / exons are amplified and sequenced	SEQ 09
<b>MicroArray &amp; Genome Sequencing Services</b>	Detects expression level changes, aCGH, ChIP on chip, Methylation profiling and miRNA profiling.	MAS 01
	<b>cDNA library preparation</b> for transcriptome Sequencing using Illumina solexa platform Provide fresh samples collected on dry-ice	TLP 01
	<b>Basic sequencing &amp; data analysis</b> Raw data/basic sequence analysis without reference genome Functional analysis	SDA 03
	<b>Solexa illumina sequencing:</b>  Paired end (per lane) @ 54bp read length	SS 02

## Real - Time PCR Services

<p><b>Copy No. detection</b></p>	<p>Copies of genes inserted within transgenic genome</p> <p>Relative quantification based on house-keeping gene copy no.</p> <p>Performed in triplicates</p> <p>Sybr Green based protocol</p>	<p>RTP 01</p>
<p><b>Gene expression profiling/ PCR-arrays</b></p>	<p>RT-PCR based protocol</p> <p>Relative quantification based on house-keeping gene expression</p> <p>Performed in triplicates</p> <p>Sybr Green based protocol</p>	<p>RTP 02</p>
<p><b>Standard Gene expression Assay Kits developed</b></p>	<p>RT-PCR based protocol standardized</p> <p>Ready-Mix reagents for 25 assays provided, just add RNA and start reaction</p> <p>Performed in triplicates</p> <p>Sybr Green based protocol</p>	<p>RTP 03</p>
<p><b>Standard microbe / Gene detection Kits developed</b></p>	<p>PCR based protocol standardized</p> <p>Ready-Mix reagents for 25 assays provided, just add source DNA and start reaction</p> <p>Performed in triplicates</p> <p>Sybr Green based protocol</p>	<p>RTP 04</p>

ALL SERVICES ARE GUARANTEED FOR POSITIVE OUTCOMES WITHIN SPECIFIED TIME