

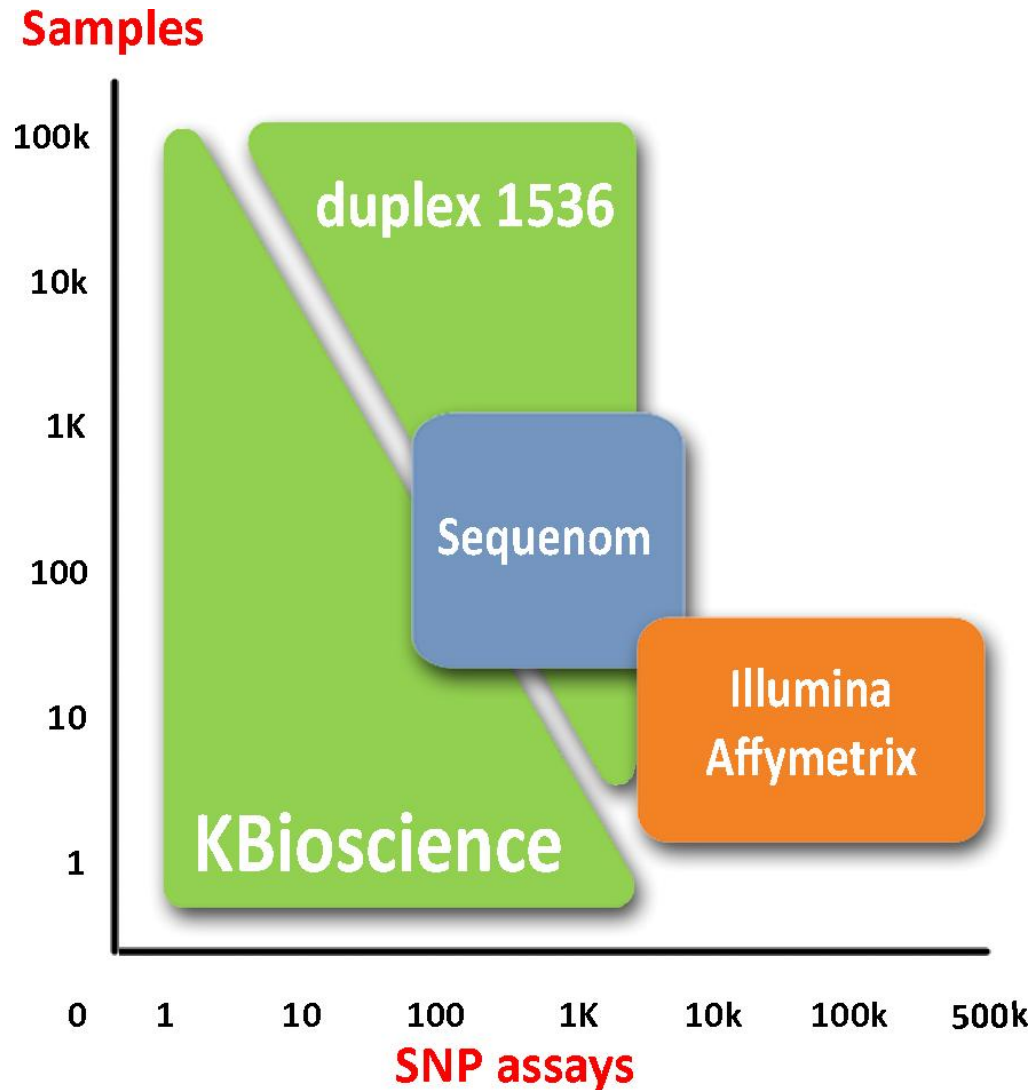
# KBiosciences SNPLine

*“The KBiosciences SNPLine is ideal for flexible and high throughput SNP genotyping using either KASP or TaqMan® chemistry allowing any number of assays over any number of samples.*

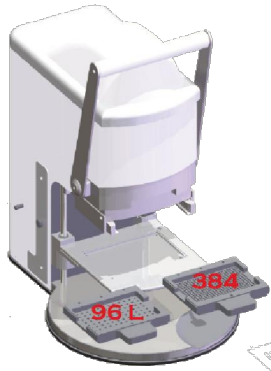
*The SNPLine can be used from a few thousand to over 1 million data-points per day and by using a proven modular and flexible approach you are able to step-by-step increase throughput in a flexible and reliable way to grow your SNP genotyping throughput.*

*KBiosciences have used SNPLine for over 8 years in their Genomic Service Business Unit offering high quality cost effective genotyping services. ”*

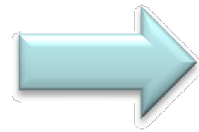
# SNPline positioning



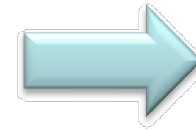
# Components – overview



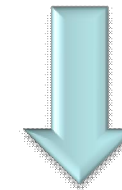
96/384/1536 DNA stamping



KBioscience Assay Dispenser



KBioscience Laser Sealer

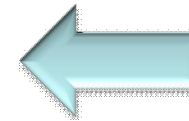


KBioscience-LIMS

[www.KBiosciences SNPline](http://www.KBiosciences SNPline)

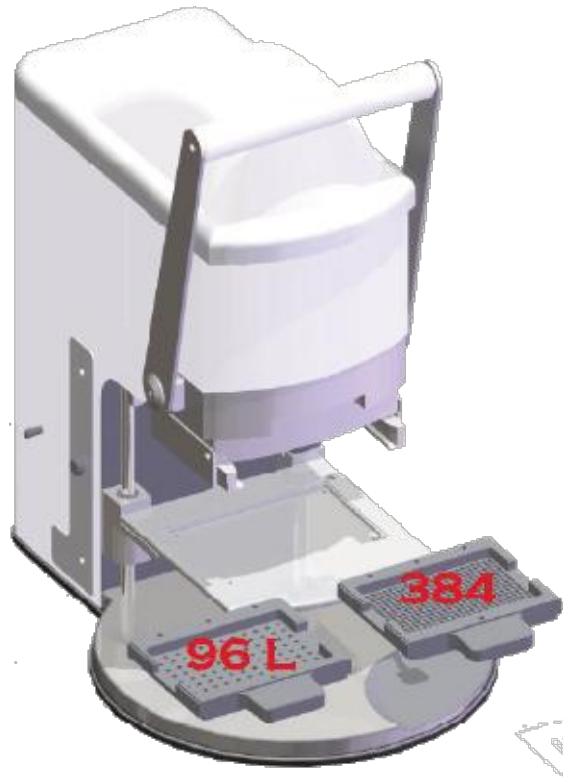


End-point Analyser



KBioscience waterbath PCR

# DNA MTP replication – stamping



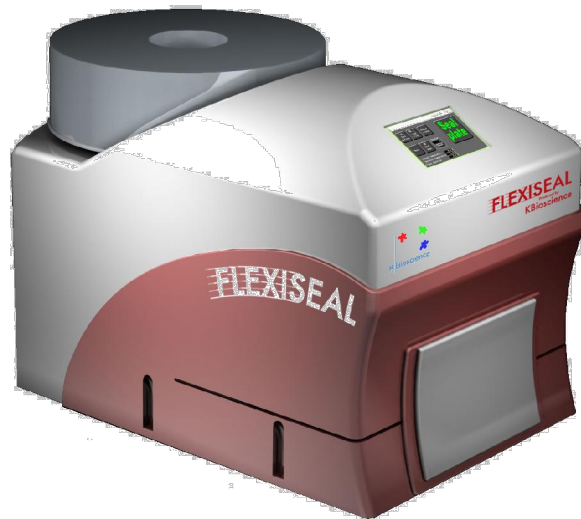
- Pipetter with 96 and/or 384 head
- 96 – 384 – 1536 compatible
- PDA controlled
- Volume range DiTips: 0.5 $\mu$ l - 500 $\mu$ l
- KBiosciences soft switch for accurate touch-off
- < 2min set-up per mother MTP
- > 6 MTP per min to copy mother MTP
- Easy manual un/loading of DiTips
- Re-use tips with DiTi Washer

# Assay mix addition



- Pipetter with 8 non-contact tips
- 384 & 1536 compatible
- KLIMS controlled
  - Generation of pipetting protocols
  - 1D barcode MTP check, 2D barcode assay check
  - Update assay volumes and control info back to KLIMS
- Volume range: from 0.05 $\mu$ l
- KBioscience modified motion/air control, wash and peltier MTP position
- < 2min set-up per assay (or set up to 8 assays)
- 1-4 MTP per min dispensing assay + reagent mix

# MTP sealing – options



## FlexiSeal

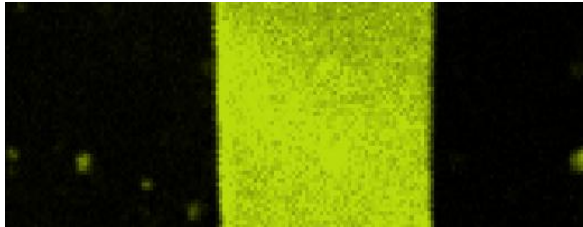
- Heat Sealer
- 96 and 384 MTP
- Volumes down to 2 $\mu$ l
- In SNPLite



## Fusion

- Laser Sealer
- 384 – 1536 MTP
- Volumes down to 0.05 $\mu$ l
- In SNPLite XL

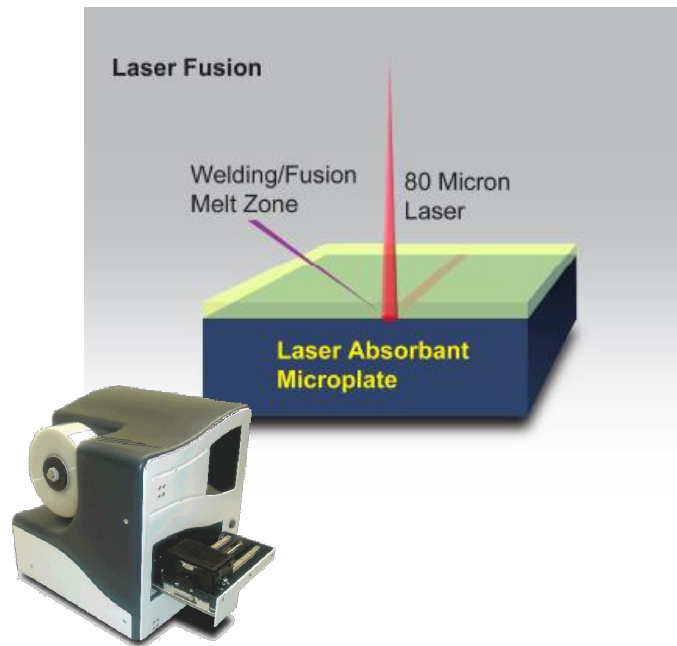
# MTP Sealing – Fusion



Polypropylene  
Welded seal

Clear seal strong  
Glue backed PP

No cover



- Best possible sealing method
- Only method for reliable 1536 MTP
- Covalently welding – no cross contamination
- Recommended for HydroCycler PCR
- Zero fluorescent background seals
- No heat applied to samples
- Used in KBiosciences service lab > 8 years

# Waterbath PCR – options

HC16



HC32



- Waterbath technology
- Highest reproducibility and uniformity
- 4 baths, rotating MTP bracket
- 16 and 32 MTP versions
- Increase capacity, saves space
- SNP PCR protocol : approximately 1:15h
- Operator time per run: < 5min
- Capacity (6 runs/day, singleplex data points):

System	Plate type	Data points per run
H16	384	6,100
H16	1536	24,000
H32	384	12,000
H32	1536	50,000

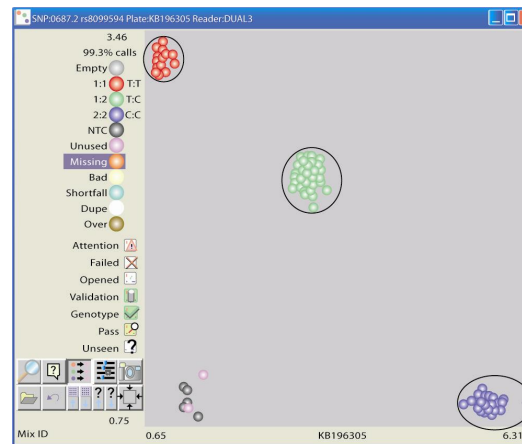
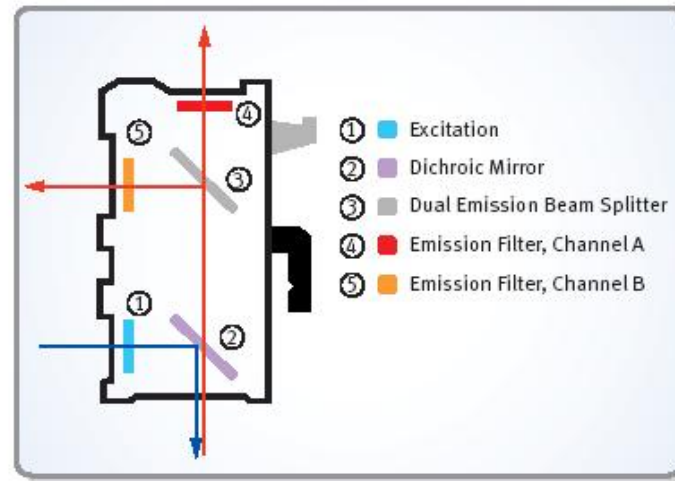
# SNP Analyser-End-point analysis



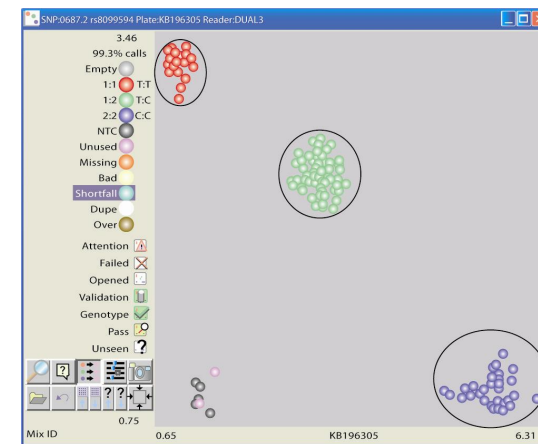
Two versions available:

- SNPLite – Single excitation/emission  
Three passes, three reads (classic technology)  
Capacity: 1.5 min/plate (384), 5 min/plate (1536)
- SNPLite XL – Simultaneous Dual Emission Technology (SDET)  
Two passes, four reads (more accurate and faster)  
Capacity: 1 min/ plate (1536)
- Operator time per run: < 1min
- Upgradable to automation (min. stacker size 36 MTP)
- KBio LIMS control: automatic file export and scoring
- System of choice at KBiosciences SNP services lab

# SNP Analyser – SDET



With SDET



Without SDET

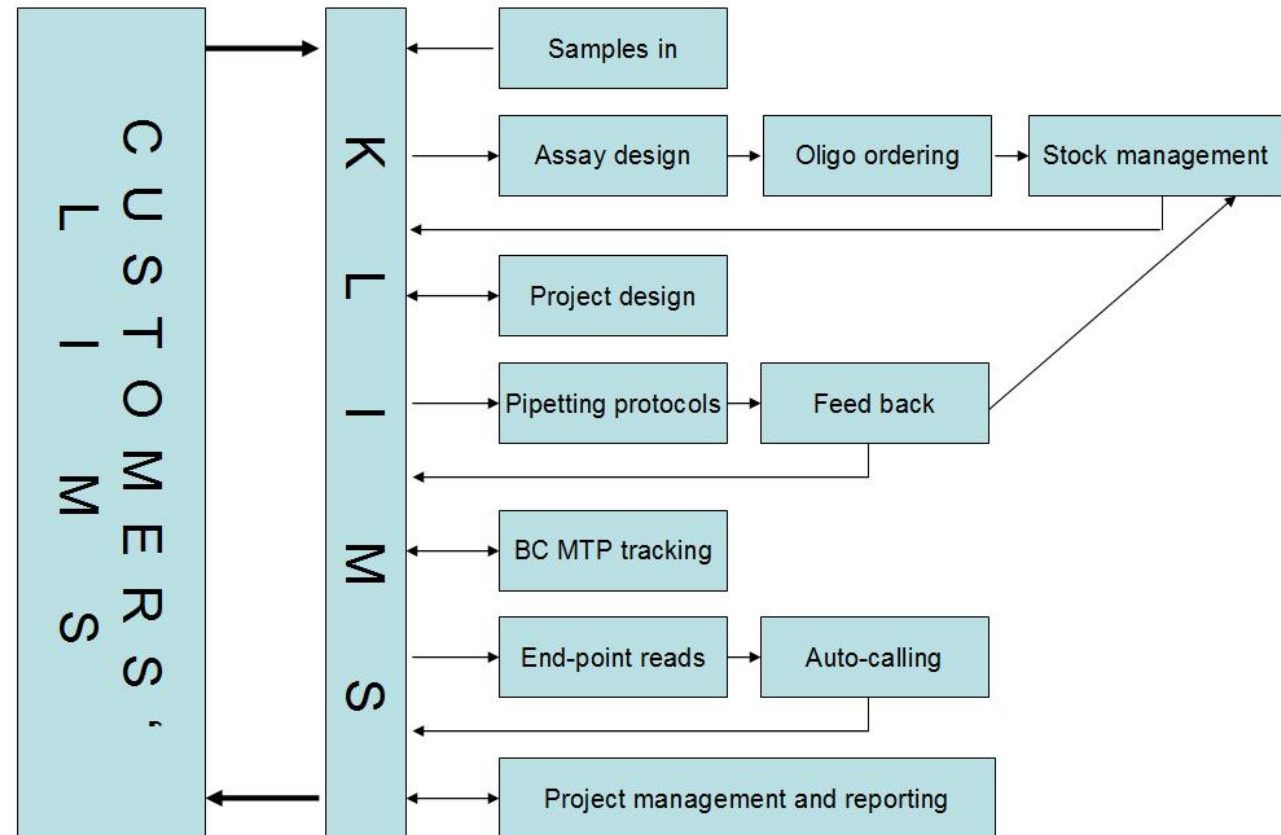
# SNP Analyser automation



- KBiosciences Scorpion Stacker
- Capacity: 36 plates unattended
- I.c.w. Analyzer XL SDET about 30min run time
- PC controlled

# Control software – KLIMS

- Multiple users with configurable privilege restrictions
- Multiple hierarchies to separate projects running in different departments
- Graphical plate & well organiser.
- Barcode tracking of assays, plates & aliquots.
- Physical plate & aliquot storage location tracking.
- Notes and timestamp are attached to assays, plates & aliquots.
- Multi-pipette tip plate transfers between any user definable format (e.g. 96 > 384 well)
- Incubator tracking
- Sample sheet / worklist generator.
- Automated primer designer
- Oligo ordering, receiving and mix management.
- Chronological event tracking.
- Plate reader file importer.
- Cluster, intensity, ratio & sequence graphical viewer with automatic and manual scoring.
- Compare call differences between plates.
- Quality control: duplicate, call drill down, negative control & allele analysis
- User definable reporting



[www.KBioscienceLIMS](http://www.KBioscienceLIMS)

KLIMS is the backbone of SNPLINE and can be integrated into existing customer's LIMS system

# Control software – KLIMS



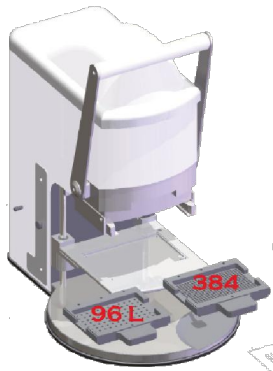
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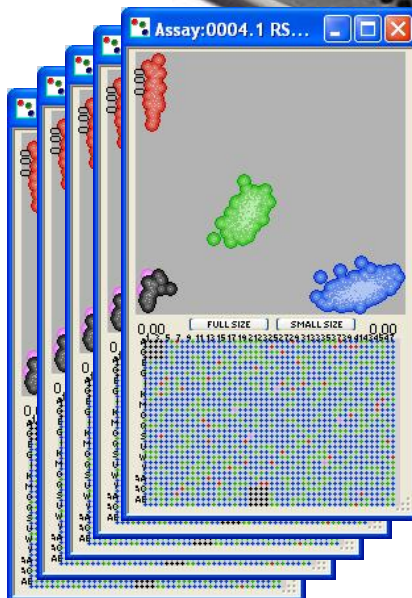
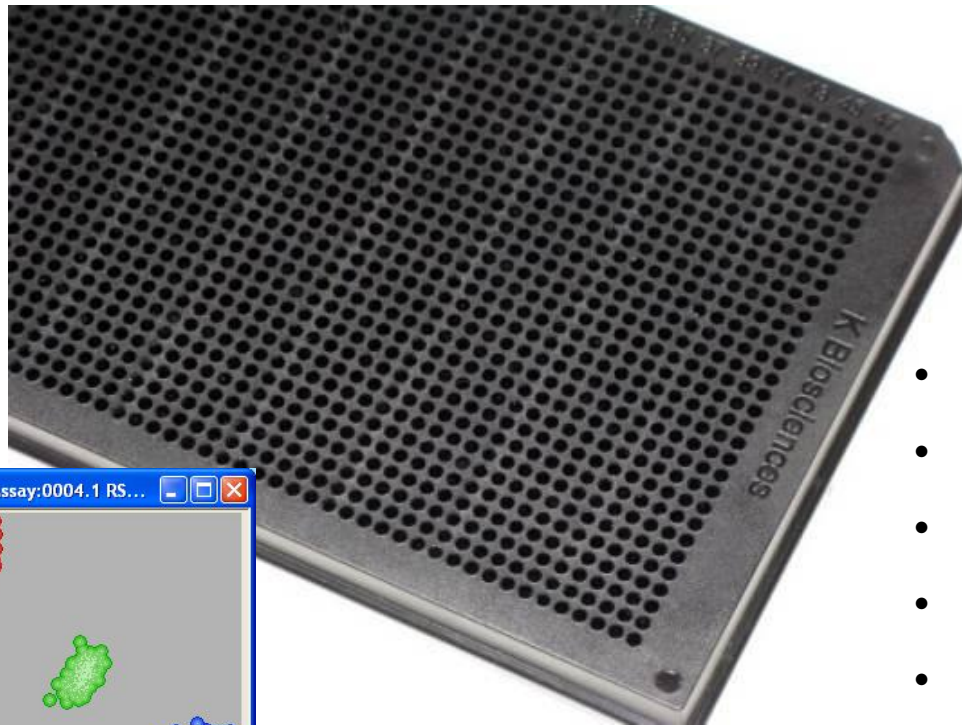
KBioscience-LIMS

**Projects/routine**









End-point Analyser

# 1536 PCR plates



- Proprietary plates
- Automation friendly
- Designed for laser sealing
- 250nl – 7 $\mu$ l well volumes
- Excellent heat transfer
- I.c.w. duplex KASP = 3,072 dp per plate
- Reduce automation

# Equipment per data point

Datapoints a day in 384	37,000	74,000	74,000	150,000	225,000
Data points a day in 1536			300,000	590,000	890,000
MTP replicating					
Assay dispensing					
FllexiSeal					
Fusion LW					
Hydrocycler 16					
Hydrocycler 32				 x2	 x2
Analyser Lite					
Analyser XL SDET					
Scorpion					

# Upgrade path

