

Precision Perfected

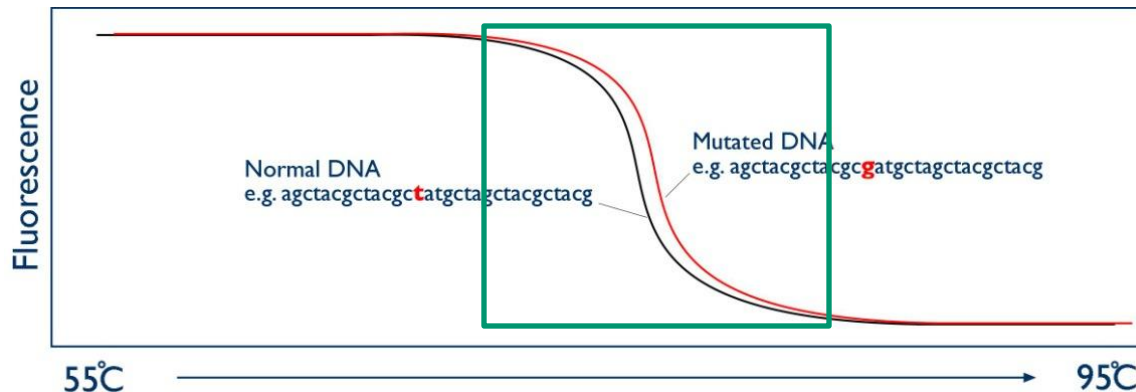
# SensiFAST HRM

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# High Resolution Melt (HRM)

- **Ultra-sensitive:** Accurately discriminates class 4 (A/T) SNP mutations
- **Rapid and highly reproducible:** Delivering fast, highly-specific high resolution melt analysis
- **Optimized:** As says quickly and reliably established, even with difficult genomic loci
- **Economic:** 20 $\mu$ l reaction volume

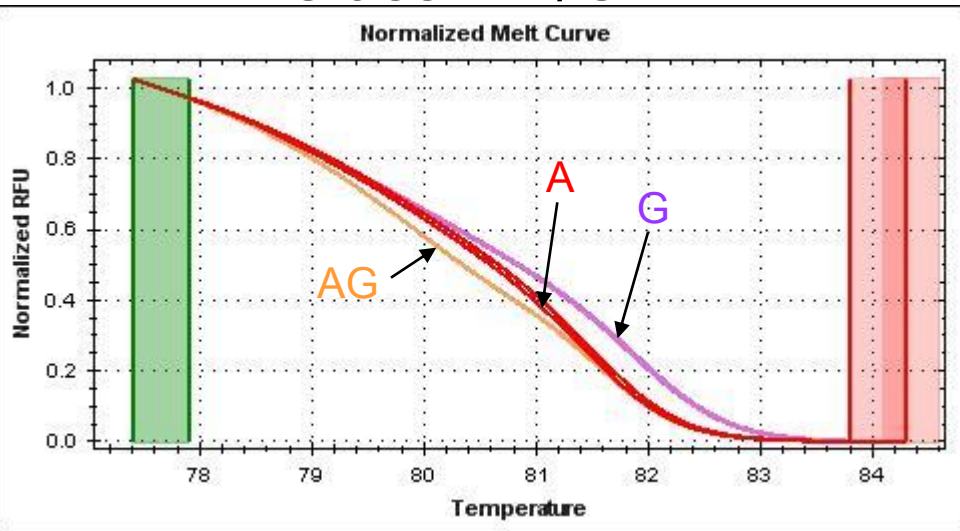


# High Resolution Melt (HRM)

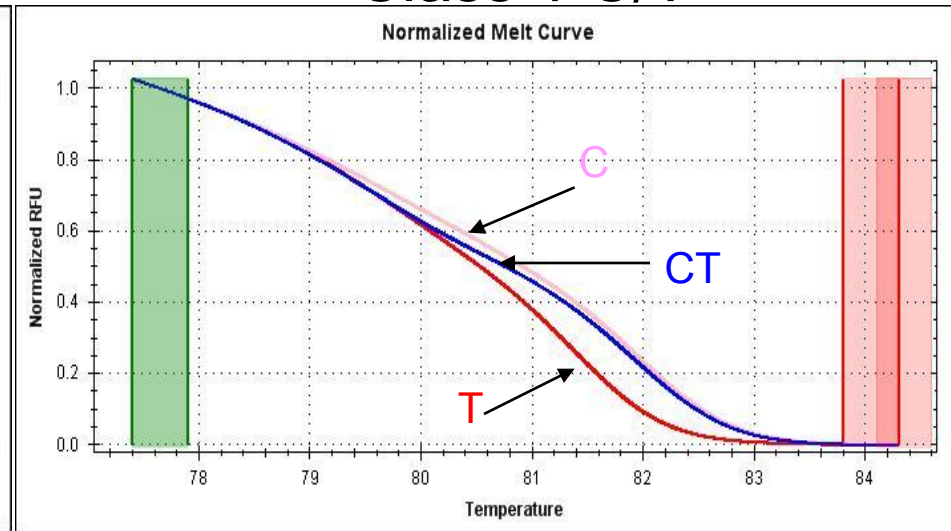
- $T_m$  of a sequence is dependent on base composition, length and GC content
- HRM: Characterises samples based on melt behaviour
- Extension of standard melt curve analyses performed post-PCR using “third generation” dyes e.g. EvaGreen
- Can detect single nucleotide polymorphisms
- Useful in mutation discovery, genotype analysis, epigenetic profiling and DNA fingerprinting

# High Resolution Melt (HRM)

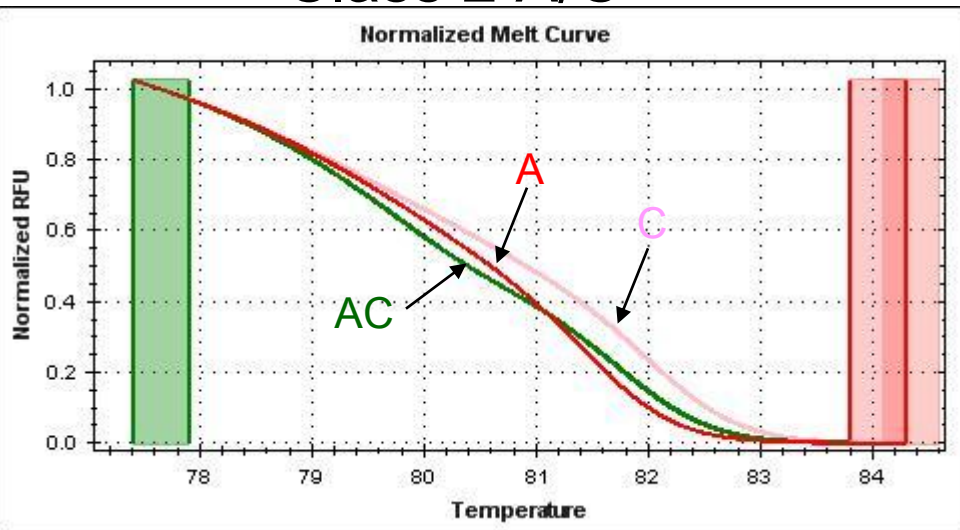
## Class 1 A/G



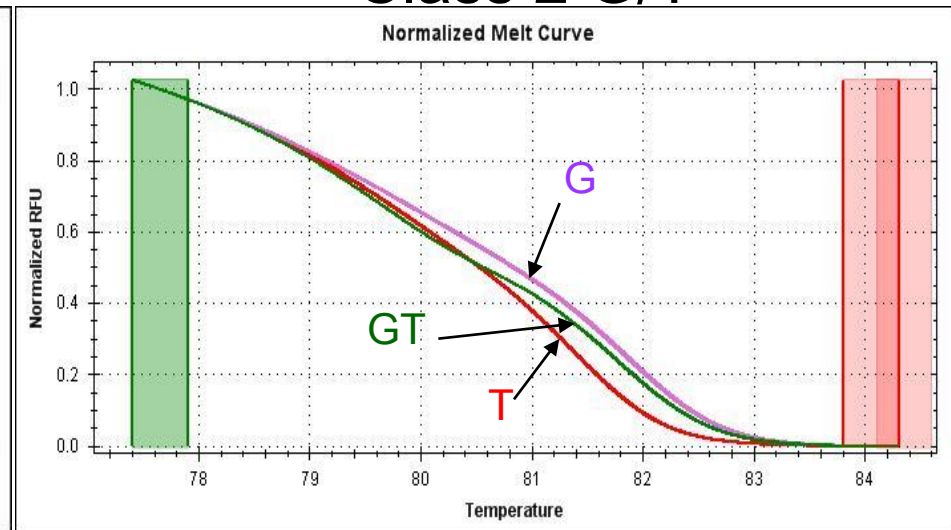
## Class 1 C/T



## Class 2 A/C



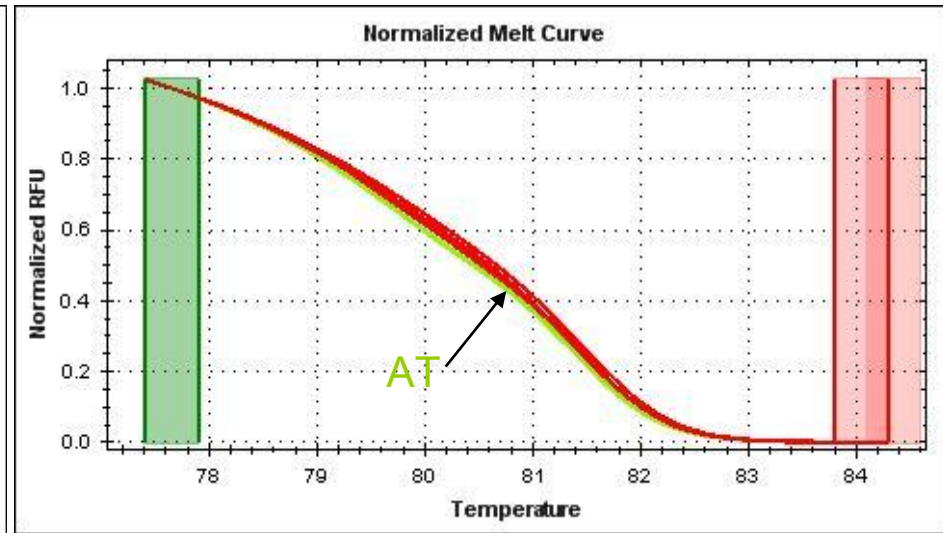
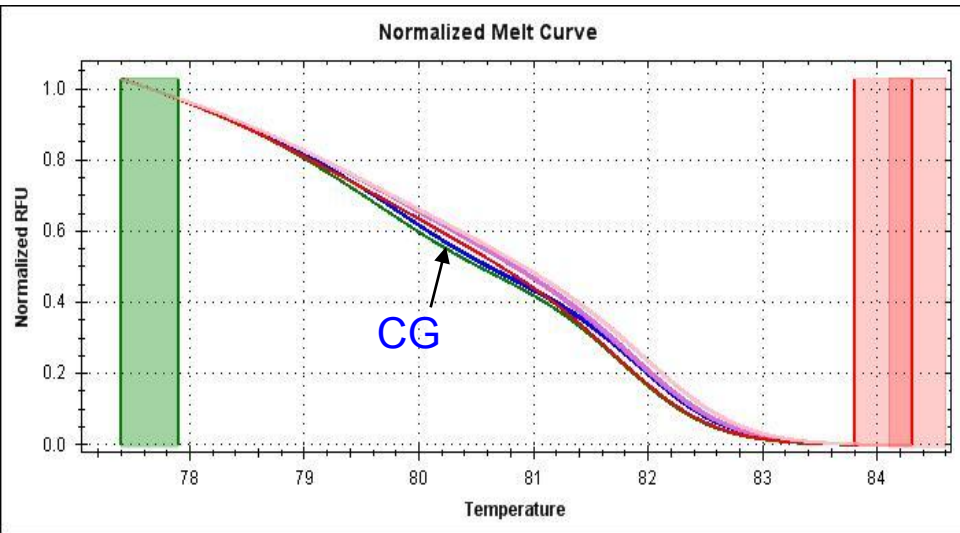
## Class 2 G/T



# High Resolution Melt (HRM)

Class 3 C/G

Class 4 A/T



SNP Class	Base Change	Tm Curve Shift	Frequency in humans
1	C/T and G/A	Large > 0.5°C	65%
2	C/A and G/T	Large > 0.5°C	19%
3	C/G	Small 0.2-0.5°C	9%
4	A/T	<b>Small &lt; 0.2°C</b>	7%

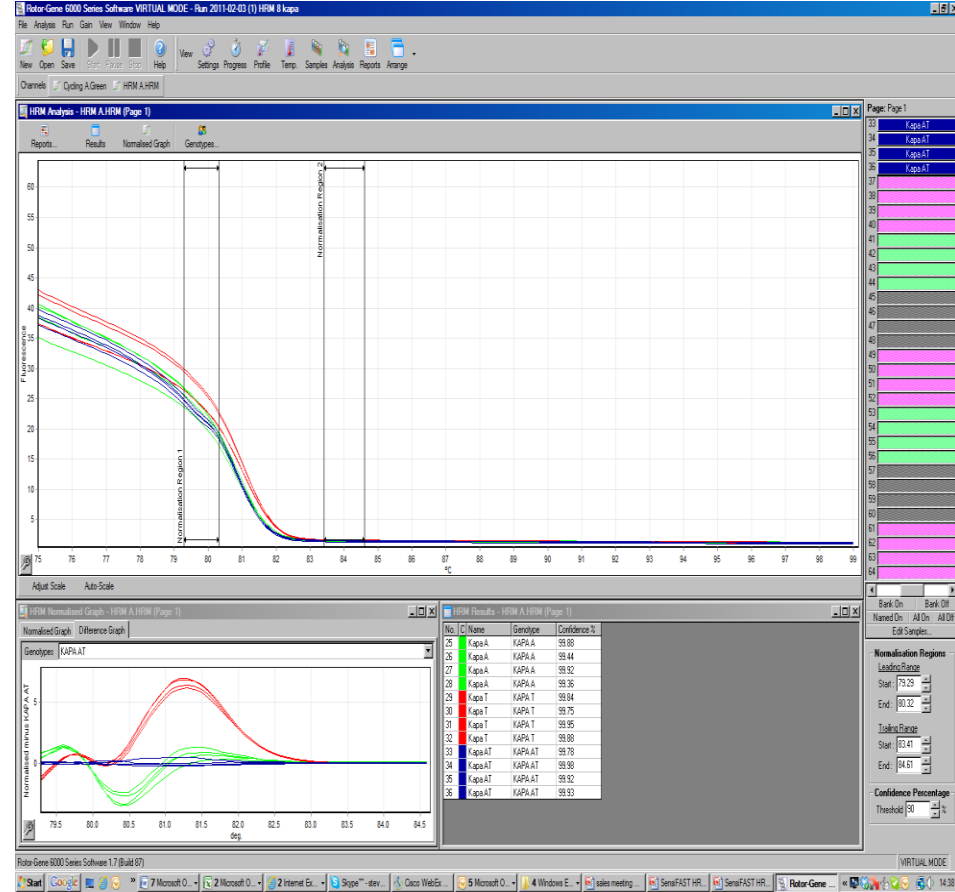
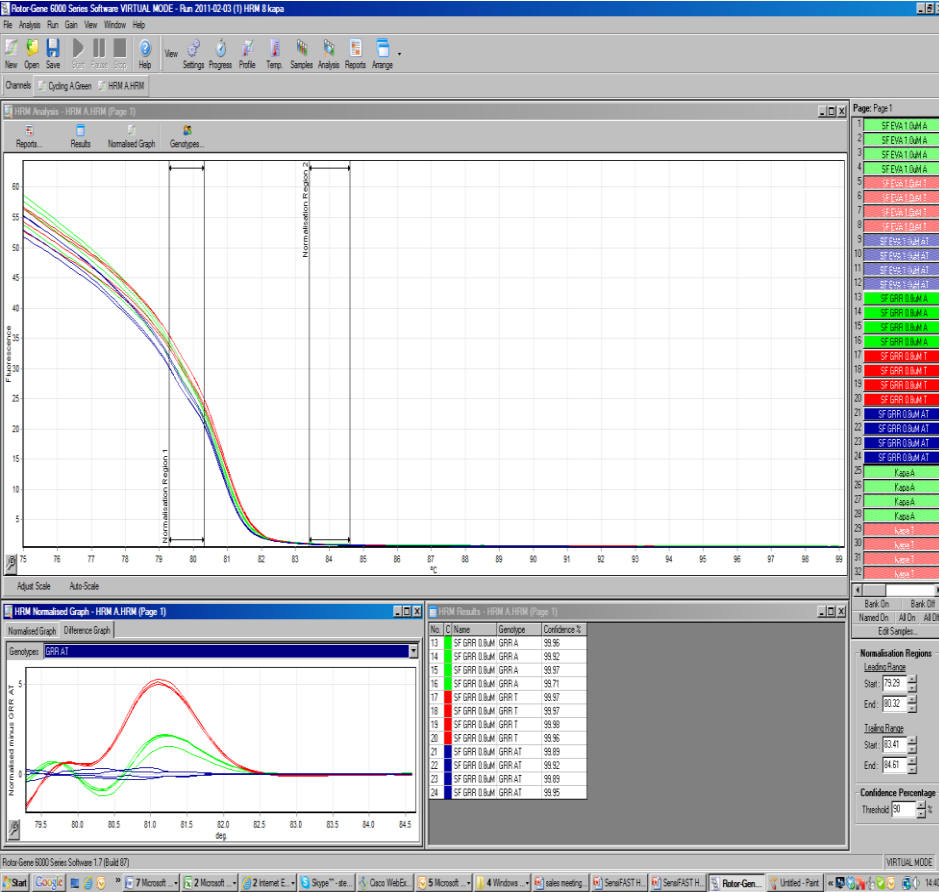
**Class 4 mutations are the most difficult to detect.**

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# Class 4 Genotyping with SensiFAST HRM

## SensiFAST HRM

## Supplier K



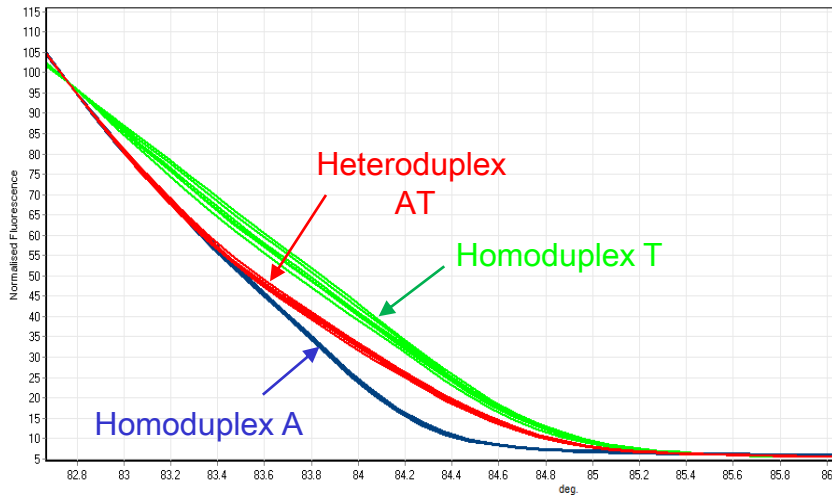
**SensiFAST HRM is very sensitive in detecting Class IV mutation.**

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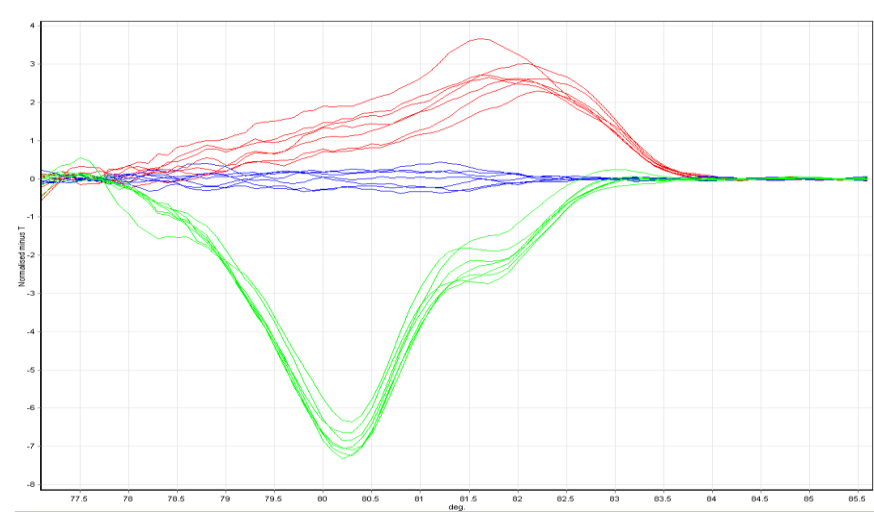
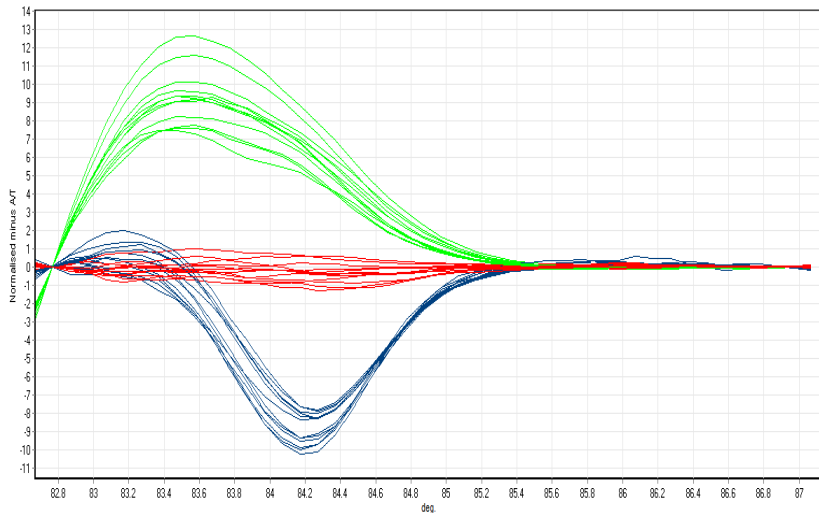
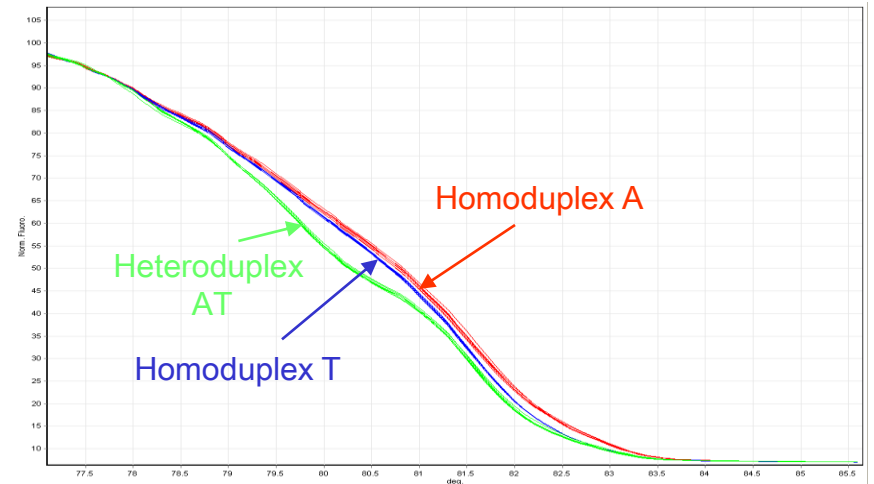


# Class 4 Genotyping with SensiFAST HRM

## SensiFAST HRM



## Supplier B



In comparison to other kits.

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# Class 4 Genotyping with SensiFAST HRM

No.	Hue	Name	Genotype	Confidence %
1	Blue	SF HRM Monozygote A	A	99.04
2	Blue	SF HRM Monoduplex A	A	99.51
3	Blue	SF HRM Monoduplex A	A	99.53
4	Blue	SF HRM Monoduplex A	A	99.66
5	Blue	SF HRM Monoduplex A	A	99.15
6	Blue	SF HRM Monoduplex A	A	98.02
7	Blue	SF HRM Monozygote A	A	98.24
8	Blue	SF HRM Monoduplex A	A	98.41
9	Blue	SF HRM Monoduplex A	A	99.64
10	Blue	SF HRM Monoduplex A	A	99.83
11	Blue	SF HRM Monoduplex A	A	99.48
12	Blue	SF HRM Monoduplex A	A	98.99
13	Green	SF HRM Monoduplex T	T	99.36
14	Green	SF HRM Monoduplex T	T	99.71
15	Green	SF HRM Monoduplex T	T	99.85
16	Green	SF HRM Monoduplex T	T	99.2
17	Green	SF HRM Monoduplex T	T	99.87
18	Green	SF HRM Monoduplex T	T	99.13
19	Green	SF HRM Monoduplex T	T	99.46
20	Green	SF HRM Monoduplex T	T	99.72
21	Green	SF HRM Monoduplex T	T	99.44
22	Green	SF HRM Monoduplex T	T	99.01
23	Green	SF HRM Monoduplex T	T	99.77
24	Green	SF HRM Monoduplex T	T	99.83
25	Red	SF HRM Hetroduplex AT	AT	99.24
26	Red	SF HRM Hetroduplex AT	AT	99.73
27	Red	SF HRM Hetroduplex AT	AT	99.66
28	Red	SF HRM Hetroduplex AT	AT	99.89
29	Red	SF HRM Hetroduplex AT	AT	99.69
30	Red	SF HRM Hetroduplex AT	AT	99.94
31	Red	SF HRM Hetroduplex AT	AT	99.36
32	Red	SF HRM Hetroduplex AT	AT	99.85
33	Red	SF HRM Hetroduplex AT	AT	99.39
34	Red	SF HRM Hetroduplex AT	AT	99.89
35	Red	SF HRM Hetroduplex AT	AT	99.79
36	Red	SF HRM Hetroduplex AT	AT	99.85

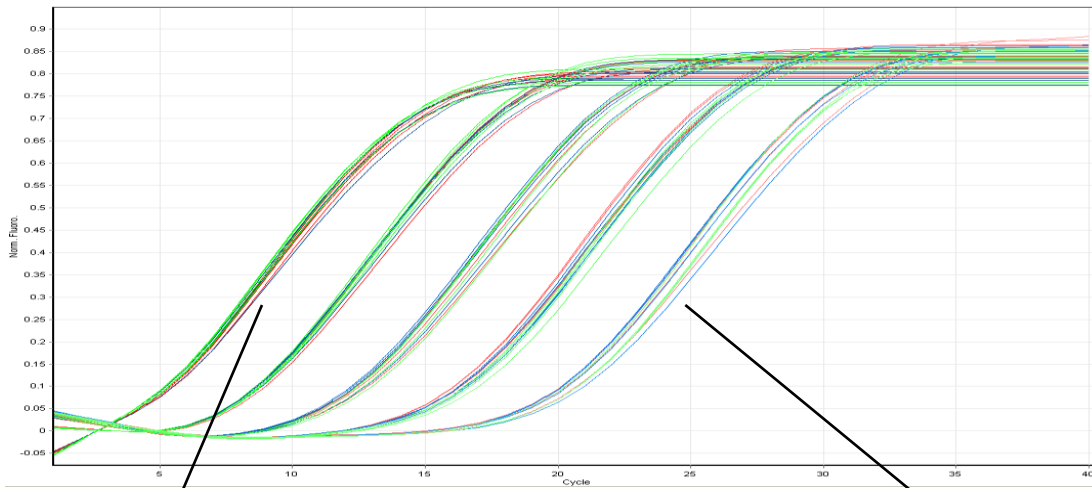
Summary of confidence values from the table:

- Blue Hue (Rows 1-12): 99.13
- Green Hue (Rows 13-24): 99.55
- Red Hue (Rows 25-36): 99.71

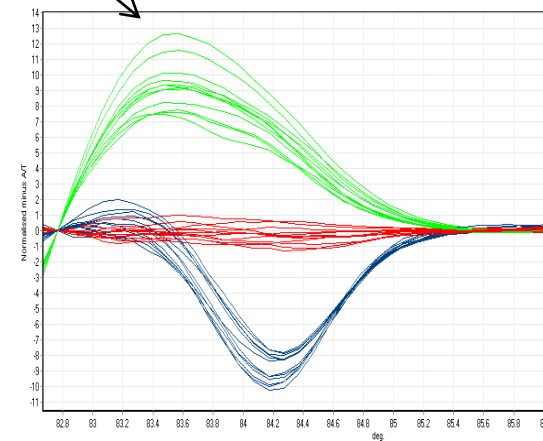
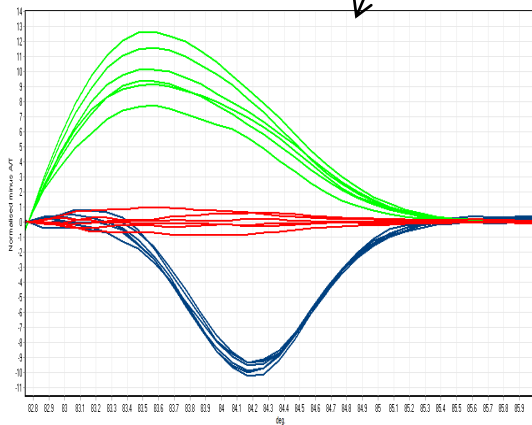
Analysis of the for SensiFAST HRM from the previous slide show high confidence, giving you very high confidence in your results.



# Reproducibility of SensiFAST HRM



10-fold dilution



**Despite a 10,000 fold variation in template concentration, each sample was discriminated correctly by SensiFAST HRM.**

# SensiFAST HRM summary

- Improved resolution
- Improved speed, sensitivity and less batch to batch variation
- Compares favourably with other suppliers

Precision Perfected

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