



Australian Government
National Measurement Institute

Next-Gen Sequencing Reference Materials

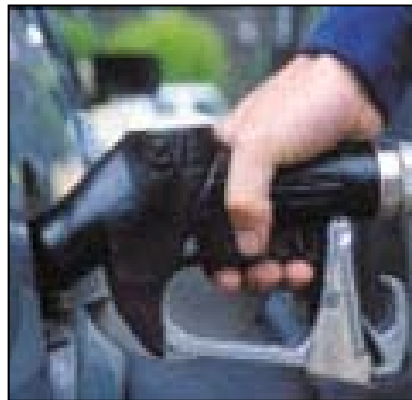
25/6/2014

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Chemical & Biological Metrology

measurement.gov.au



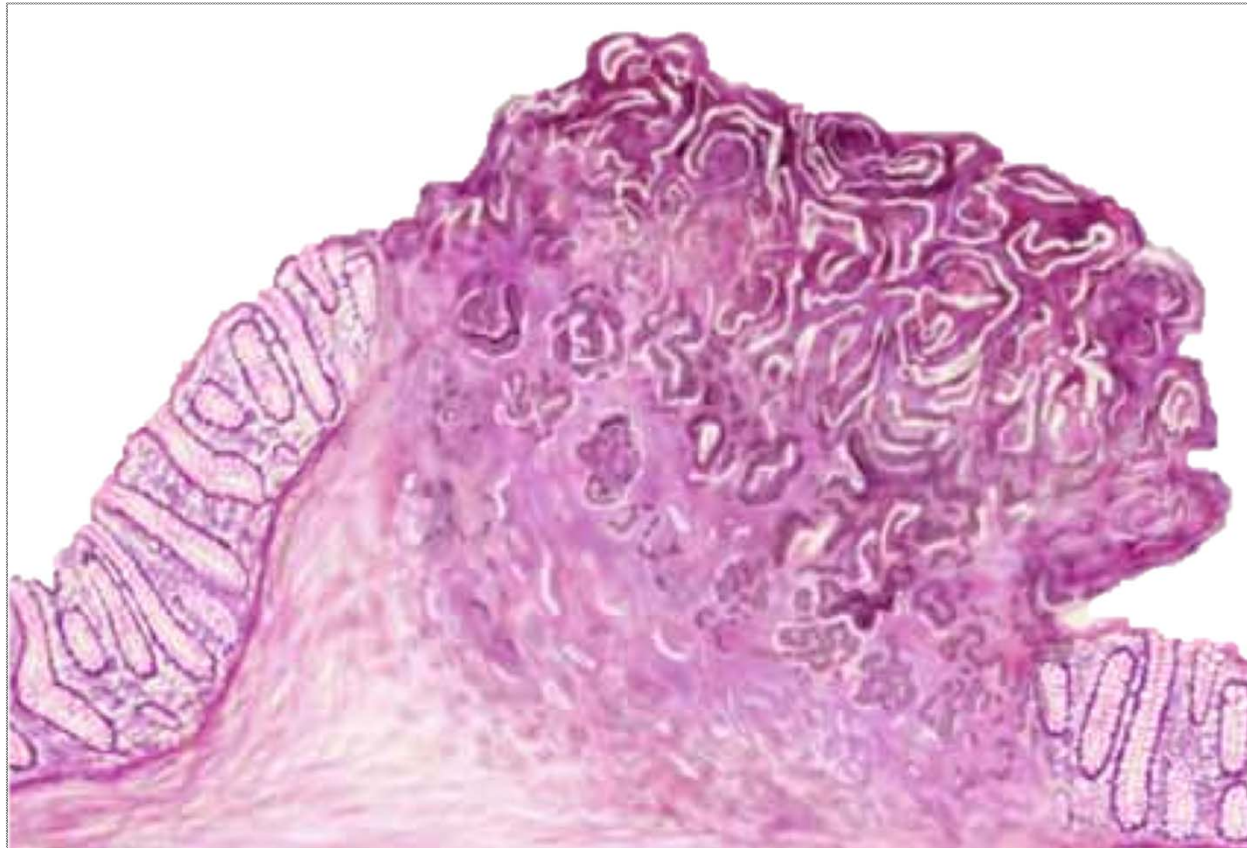
National Measurement Institute



Bioanalysis



```
CTAAGTGCTCGGAC
CCTCCAGAGGATTT
CTGGCTGGTCACCA
AGCG11GGCG12GCC
CTGGCCACG18GCC
CTGCCCAACG27CA
CAGGGGATGGCG33
```



Cancer & NGS



...
...TACAGT**G**AAAT...
...TACAGT**G**AAAT...
...TACAGT**G**AAAT...
...TACAGT**G**AAAT...
...TACAGT**G**AAAT...
...TACAGT**G**AAAT...
...TACAG**A**GAAAT...
...TACAG**A**GAAAT...
...TACAG**A**GAAAT...
...TACAG**A**GAAAT...
...

BRAF V600E T>A

Reference: ...TACAGTGAAAT...

Reads: ...TACAGT**T**GAAAT...

...TACAGT**T**GAAAT...

...TACAGT**T**GAAAT...

...TACAGT**T**GAAAT...

...TACAG**A**GAAAT...

...TACAG**A**GAAAT...

...TACAG**A**GAAAT...

...TACAG**A**GAAAT...

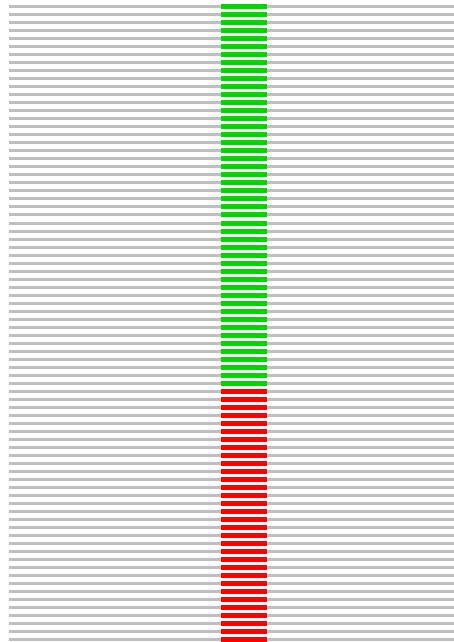
...

BRAF V600E T>A

NGS Alignment

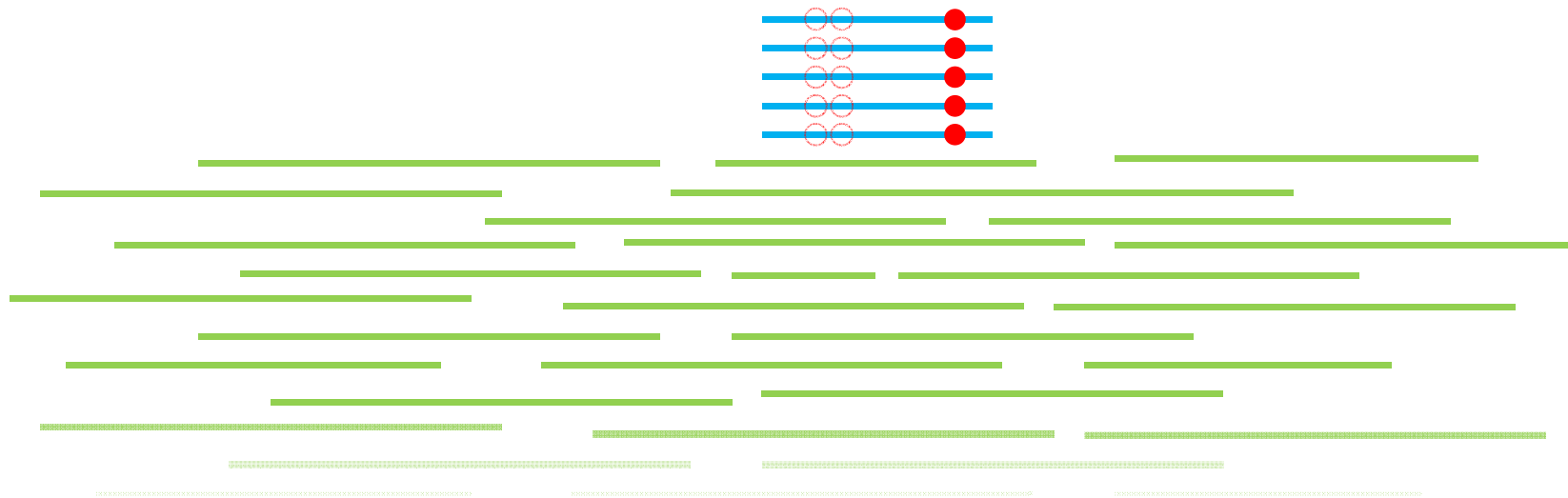
Reference: ...TACAGTGAAAT...

Reads:



BRAF V600E T>A

NGS Alignment



RM Design

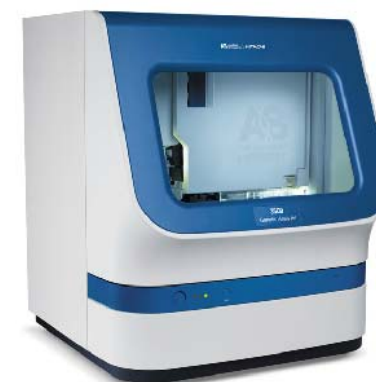
Linear Plasmid with BRAF V600E Variant
& Human Genomic DNA without Variant



Digital PCR
(SI: Mole)

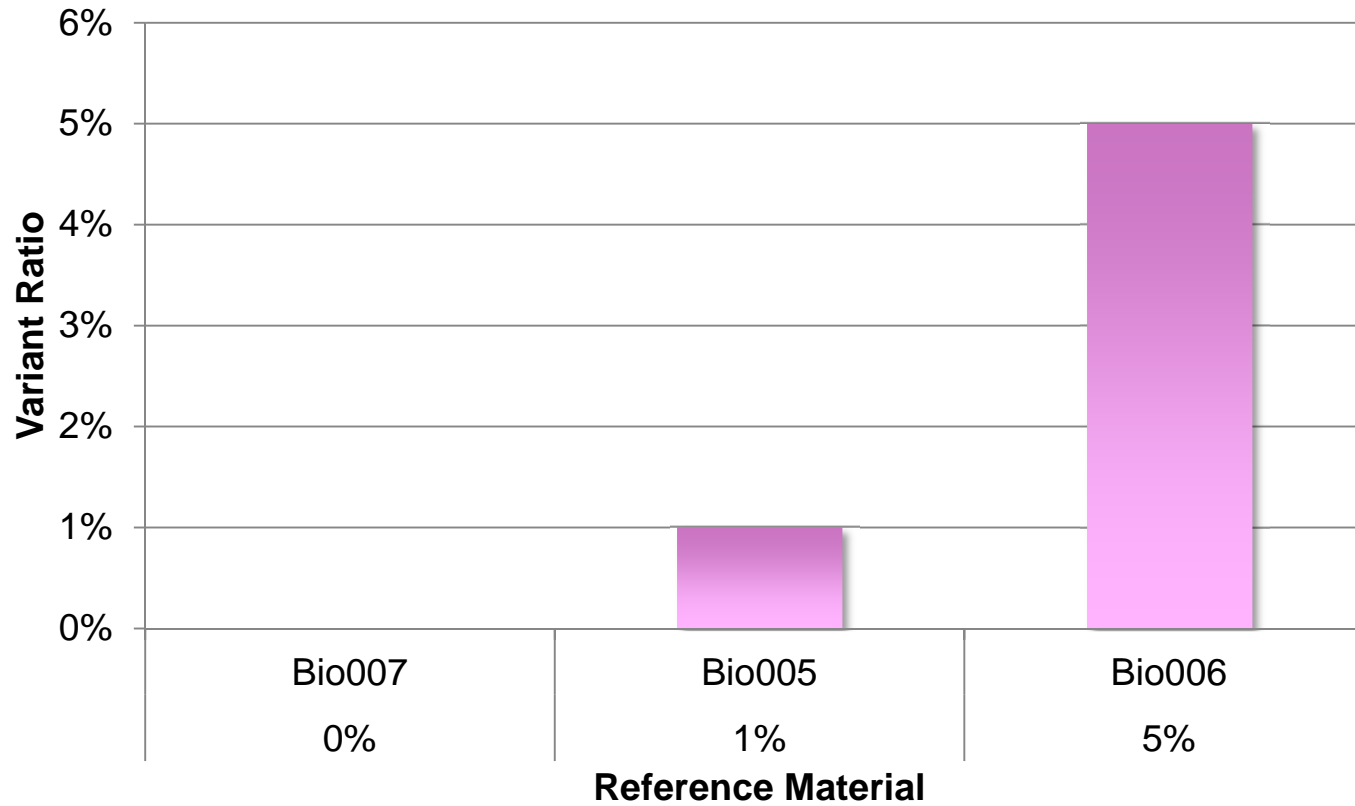


IDMS
(SI: Kilogram)



Sanger Seq.
(Identity)

RM Characterisation

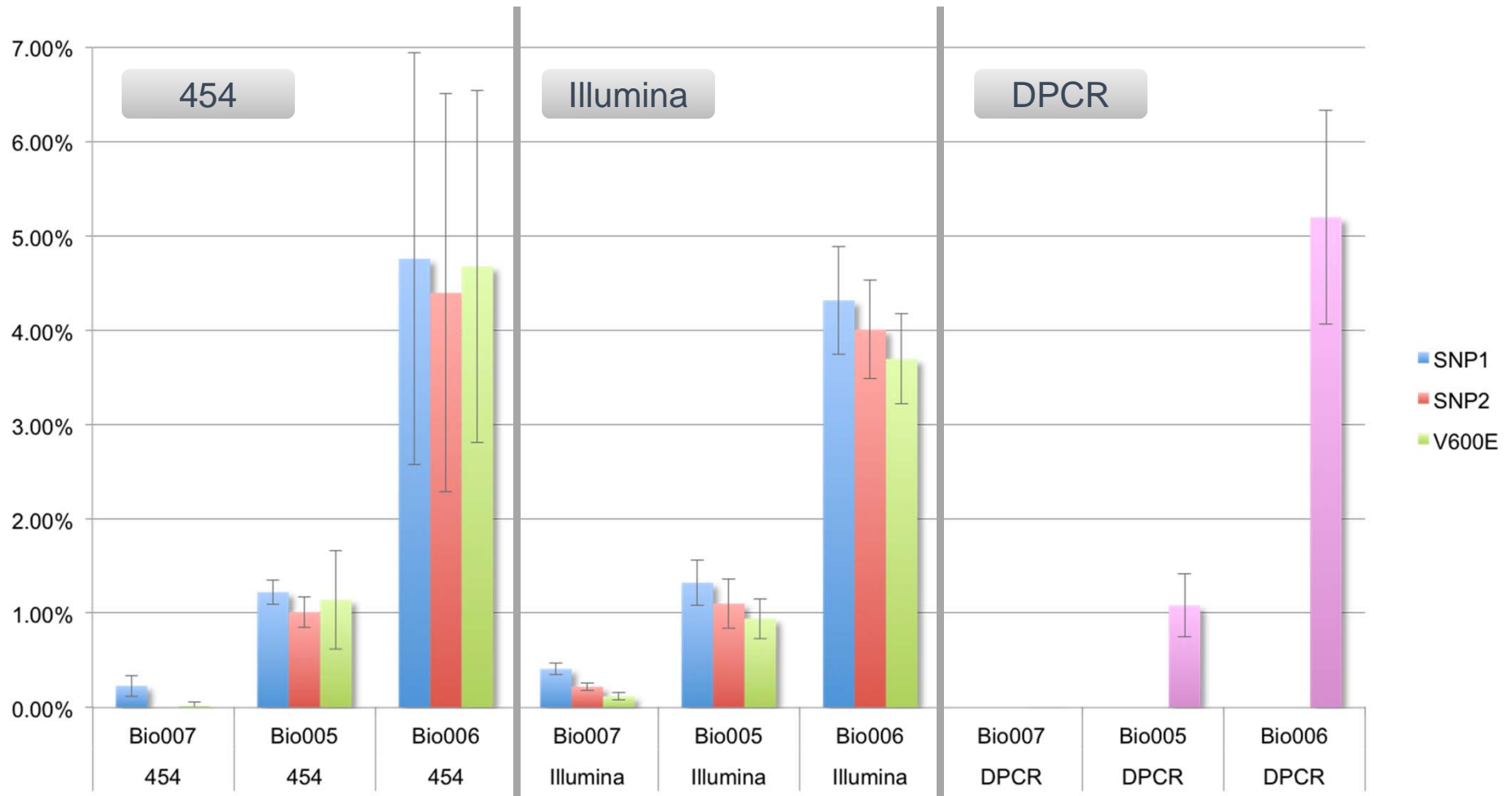


RM Design



NGS Workflow

Amplicon Sequencing



BRAF V600E RM

0%, 1%, 5% Materials



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