



Genolution

: Clinical Data

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- TB/NTM
- STD
- HPV
- HBV
- RV
- FFPE DNA
- Whole Blood DNA

- TB/NTM

TB/NTM – Sputum

Resin vs Nextractor

| Sample | Specimen | Resin | | | Nextractor | | |
|--------|----------|-------|------|--------------|------------|-------|--------------|
| | | MTB | NTM | Result | MTB | NTM | Result |
| 1 | Sputum | 22.3 | 26.9 | MTB Positive | 22.6 | 34.7 | MTB Positive |
| 2 | Sputum | 25.3 | 30.2 | MTB Positive | 24.7 | 32.8 | MTB Positive |
| 3 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 4 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 5 | Sputum | 23.0 | 30.7 | MTB Positive | 23.1 | 31.0 | MTB Positive |
| 6 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 7 | Sputum | N/A | 35.4 | NTM Positive | N/A | 38.4 | NTM Positive |
| 8 | Sputum | N/A | N/A | Negative | 36.1 | N/A | MTB Positive |
| 9 | Sputum | 31.1 | 36.5 | MTB Positive | 30.5 | 38.7 | MTB Positive |
| 10 | Sputum | 33.8 | 36.6 | MTB Positive | 31.2 | 36.7 | MTB Positive |
| 11 | Sputum | N/A | 28.0 | NTM Positive | N/A | 24.7 | NTM Positive |
| 12 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 13 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 14 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 15 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 16 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 17 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 18 | Sputum | 34.49 | N/A | MTB Positive | 28.27 | 28.27 | MTB Positive |

2014-04-18 S Clinical Center & D Clinical Center 2014-05-15 Y Clinical Center

* Detection : Real-Q MTB&NTM Kit (Biosewom, Korea)

TB/NTM – Sputum

Resin vs Nextractor

| Sample | Specimen | Resin | | | Nextractor | | |
|--------|----------|-------|-------|----------|------------|-------|--------------|
| | | MTB | NTM | Result | MTB | NTM | Result |
| 1 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 2 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 3 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 4 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 5 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 6 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 7 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 8 | Sputum | N/A | 38.68 | Negative | N/A | 31.86 | NTM Positive |
| 9 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 10 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 11 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 12 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 13 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 14 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 15 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 16 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 17 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |
| 18 | Sputum | N/A | N/A | Negative | N/A | N/A | Negative |

2014-07-16 C Clinical Center & Y Clinical Center

* Detection : Real-Q MTB&NTM Kit (Biosewoom , Korea)

TB/NTM – Variety sample

Resin vs Nextractor

| Sample | Specimen | Resin | | | Nextractor | | |
|--------|----------|-------|-----|--------------|------------|-------|--------------|
| | | MTB | NTM | Result | MTB | NTM | Result |
| 1 | Wound | N/A | N/A | Negative | N/A | N/A | Negative |
| 2 | Wound | N/A | N/A | Negative | N/A | N/A | Negative |
| 3 | BrA | 28.8 | N/A | MTB Positive | 30.28 | 39.57 | MTB Positive |
| 4 | BrA | 27.26 | N/A | MTB Positive | 26.74 | 34.06 | MTB Positive |
| 5 | BrA | 35.18 | N/A | MTB Positive | 35.95 | N/A | MTB Positive |
| 6 | BrA | 35.11 | N/A | MTB Positive | 34.66 | N/A | MTB Positive |
| 7 | BrA | N/A | N/A | Negative | N/A | N/A | Negative |
| 8 | BrA | N/A | N/A | Negative | N/A | N/A | Negative |
| 9 | BrA | N/A | N/A | Negative | N/A | N/A | Negative |
| 10 | BrA | N/A | N/A | Negative | N/A | N/A | Negative |
| 11 | BrA | N/A | N/A | Negative | N/A | N/A | Negative |
| 12 | BrA | N/A | N/A | Negative | N/A | N/A | Negative |
| 13 | JF | N/A | N/A | Negative | N/A | N/A | Negative |
| 14 | JF | N/A | N/A | Negative | N/A | N/A | Negative |
| 15 | Pleural | N/A | N/A | Negative | N/A | N/A | Negative |
| 16 | Pleural | N/A | N/A | Negative | N/A | N/A | Negative |
| 17 | Ascitic | N/A | N/A | Negative | N/A | N/A | Negative |
| 18 | Ascitic | N/A | N/A | Negative | N/A | N/A | Negative |
| 19 | CSF | N/A | N/A | Negative | N/A | N/A | Negative |
| 20 | CSF | N/A | N/A | Negative | N/A | N/A | Negative |

TB/NTM – Variety sample

Resin vs Nextractor

| Sample | Specimen | Resin | | | Nextractor | | |
|--------|-------------|-------------|-------|--------------|-------------|--------------|--------------|
| | | MTB | NTM | Result | MTB | NTM | Result |
| 1 | BF-pleural | N/A | N/A | Negative | N/A | N/A | Negative |
| 2 | BF-pleural | N/A | N/A | Negative | N/A | N/A | Negative |
| 3 | BF-pleural | N/A | N/A | Negative | N/A | N/A | Negative |
| 4 | Bronchial w | 32.13 | 38.59 | MTB Positive | 28.39 | N/A | MTB Positive |
| 5 | Bronchial w | N/A | N/A | Negative | N/A | N/A | Negative |
| 6 | Bronchial w | 39.39 | N/A | Negative | N/A | N/A | Negative |
| 7 | Bronchial w | N/A | N/A | Negative | N/A | N/A | Negative |
| 8 | Bronchial w | N/A | N/A | Negative | N/A | N/A | Negative |
| 9 | BrA | N/A | N/A | Negative | N/A | N/A | Negative |
| 10 | BrA | N/A | N/A | Negative | N/A | N/A | Negative |
| 11 | BrA | N/A | N/A | Negative | N/A | N/A | Negative |
| 12 | BrA | N/A | N/A | Negative | N/A | N/A | Negative |
| 13 | BrA | N/A | N/A | Negative | N/A | N/A | Negative |
| 14 | BrA | 39.30 | N/A | Negative | 38.20 | N/A | Negative |
| 15 | Ascitic | N/A | N/A | Negative | N/A | N/A | Negative |
| 16 | Ascitic | N/A | N/A | Negative | N/A | N/A | Negative |
| 17 | pleural | N/A | N/A | Negative | N/A | 35.40 | NTM positive |
| 18 | pleural | N/A | N/A | Negative | N/A | N/A | Negative |
| 19 | CSF | N/A | N/A | Negative | N/A | N/A | Negative |
| 20 | BrA | 32.6 | 35.8 | MTB positive | 24.9 | N/A | MTB positive |

Ampliprep (Roche) vs Nextractor

| Sample | Roche | Nextractor | TB | NTM |
|--------|--------------|--------------|-------|-------|
| 1 | Negative | Negative | N/A | N/A |
| 2 | MTB Positive | MTB Positive | 34.39 | N/A |
| 3 | Negative | Negative | N/A | N/A |
| 4 | Negative | Negative | N/A | N/A |
| 5 | Negative | Negative | N/A | N/A |
| 6 | Negative | Negative | N/A | N/A |
| 7 | Negative | Negative | N/A | N/A |
| 8 | MTB Positive | MTB Positive | 26.07 | 32.71 |
| 9 | Negative | Negative | N/A | N/A |
| 10 | Negative | Negative | N/A | N/A |
| 11 | Negative | Negative | N/A | N/A |
| 12 | Negative | Negative | N/A | N/A |
| 13 | Negative | Negative | N/A | N/A |
| 14 | MTB Positive | MTB Positive | 26.68 | N/A |
| 15 | Negative | Negative | N/A | N/A |
| 16 | Negative | Negative | N/A | N/A |
| 17 | Negative | Negative | N/A | N/A |
| 18 | Negative | Negative | N/A | N/A |

2014-06-25 D Clinical Center

* Detection : COBAS® TaqMan® MTB Test (Roche) vs Real-Q MTB&NTM Kit (Biosewom)

Ampliprep (Roche) vs Nextractor

| Sample | Roche | Nextractor | TB | NTM |
|--------|--------------|--------------|-------|-------|
| 19 | Negative | Negative | N/A | N/A |
| 20 | Negative | Negative | N/A | N/A |
| 21 | Negative | Negative | N/A | N/A |
| 22 | Negative | Negative | N/A | N/A |
| 23 | Negative | Negative | N/A | N/A |
| 24 | Negative | Negative | N/A | N/A |
| 25 | Negative | Negative | N/A | N/A |
| 26 | Negative | Negative | N/A | N/A |
| 27 | Negative | Negative | N/A | N/A |
| 28 | Negative | Negative | N/A | N/A |
| 29 | MTB Positive | MTB Positive | 18.36 | 23.69 |
| 30 | MTB Positive | MTB Positive | 36.12 | N/A |
| 31 | MTB Positive | MTB Positive | 28.59 | 37.22 |
| 32 | MTB Positive | MTB Positive | 37.42 | N/A |
| 33 | MTB Positive | MTB Positive | 27.34 | 33.54 |
| 34 | MTB Positive | MTB Positive | 28.03 | 35.16 |
| 35 | MTB Positive | MTB Positive | 22.57 | 28 |
| 36 | MTB Positive | MTB Positive | 26.71 | 33.37 |

2014-06-25 D Clinical Center

* Detection : COBAS® TaqMan® MTB Test vs Real-Q MTB&NTM Kit (Biosewom)

Ampliprep (Roche) vs Nextractor

| Sample | Roche | Nextractor | TB | NTM |
|--------|--------------|--------------|-------|-------|
| 37 | Negative | Negative | N/A | N/A |
| 38 | Negative | Negative | 39.3 | N/A |
| 39 | Negative | Negative | N/A | N/A |
| 40 | MTB Positive | MTB Positive | 29.36 | 36.94 |
| 41 | Negative | Negative | N/A | N/A |
| 42 | Negative | Negative | N/A | N/A |
| 43 | Negative | MTB Positive | 37.11 | N/A |
| 44 | Negative | Negative | N/A | N/A |
| 45 | Negative | Negative | N/A | N/A |
| 46 | Negative | Negative | N/A | N/A |
| 47 | Negative | NTM Positive | N/A | 37.4 |
| 48 | Negative | MTB Positive | 35.02 | N/A |
| 49 | Negative | Negative | N/A | N/A |
| 50 | Negative | Negative | N/A | N/A |

2014-06-25 D Clinical Center

* Detection : COBAS® TaqMan® MTB Test vs Real-Q MTB&NTM Kit (Biosewoom)

Resin vs Nextractor (Old Samples)

| Sample | Specimen | Resin | | | Nextractor | | | Note |
|--------|----------|-------|-------|--------------|------------|-------|--------------|------------------------|
| | | MTB | NTM | Result | MTB | NTM | Result | |
| 1 | Sputum | 34.70 | N/A | MTB Positive | 31.90 | N/A | MTB Positive | |
| 2 | BrA | 36.20 | N/A | MTB Positive | 35.20 | N/A | MTB Positive | |
| 3 | BrA | 38.11 | N/A | MTB Trace | N/A | N/A | Negative | Stain (-), lung cancer |
| 4 | Sputum | 27.00 | N/A | MTB Positive | 23.50 | N/A | MTB Positive | |
| 5 | BrA | 36.20 | N/A | MTB Positive | 37.80 | N/A | MTB Positive | |
| 6 | Sputum | 31.60 | N/A | MTB Positive | 31.60 | N/A | MTB Positive | |
| 7 | BrA | 33.50 | N/A | MTB Positive | 29.60 | N/A | MTB Positive | |
| 8 | BrA | 33.80 | N/A | MTB Positive | 31.40 | N/A | MTB Positive | |
| 9 | Sputum | 39.70 | N/A | MTB Trace | 38.80 | N/A | MTB Trace | |
| 10 | Sputum | 35.20 | N/A | MTB Positive | 31.40 | N/A | MTB Positive | |
| 11 | Sputum | 39.20 | N/A | MTB Trace | 33.70 | N/A | MTB Positive | Culture (MTB) positive |
| 12 | BrA | 39.10 | N/A | MTB Trace | N/A | N/A | Negative | Stain (-), lung cancer |
| 13 | BrA | 33.20 | N/A | MTB Positive | 30.60 | N/A | MTB Positive | |
| 14 | Sputum | 35.50 | N/A | MTB Positive | 33.90 | N/A | MTB Positive | |
| 15 | BrA | 35.70 | N/A | MTB Positive | 32.90 | N/A | MTB Positive | |
| 16 | BrA | 39.20 | N/A | MTB Trace | 30.90 | N/A | MTB Positive | Culture (MTB) positive |
| 17 | BrA | 39.30 | N/A | MTB Trace | 38.00 | N/A | MTB Trace | |
| 18 | Wound | N/A | 33.40 | NTM Positive | N/A | 37.10 | NTM Positive | |
| 19 | Sputum | N/A | 34.50 | NTM Positive | N/A | 36.80 | NTM Positive | |
| 20 | BrA | N/A | 31.00 | NTM Positive | N/A | 31.10 | NTM Positive | |

QIAxtractor vs Nextractor

| No. | Specimen | QIAxtractor | | Nextractor | |
|-----|----------|-------------|----------|------------|----------|
| | | Ct | Result | Ct | Result |
| 1 | Sputum | N/A | Negative | 34.59 | MTB |
| 2 | Sputum | 39.20 | MTB | 30.47 | MTB |
| 3 | Sputum | 29.49 | MTB | 24.46 | MTB |
| 4 | Sputum | 33.36 | MTB | 29.46 | MTB |
| 5 | Sputum | N/A | Negative | 35.25 | MTB |
| 6 | Sputum | 37.18 | MTB | 32.55 | MTB |
| 7 | Sputum | N/A | Negative | 35.37 | MTB |
| 8 | Sputum | N/A | Negative | 39.20 | MTB |
| 9 | Sputum | N/A | Negative | N/A | Negative |
| 10 | Sputum | 32.15 | MTB | 26.98 | MTB |
| 11 | Sputum | 39.08 | MTB | 31.57 | MTB |
| 12 | Sputum | N/A | Negative | 38.99 | MTB |
| 13 | Sputum | 39.55 | MTB | 31.78 | MTB |
| 14 | Sputum | 31.28 | MTB | 28.31 | MTB |
| 15 | Sputum | 35.49 | MTB | 28.28 | MTB |
| 16 | Sputum | 31.17 | MTB | 24.04 | MTB |
| 17 | Sputum | N/A | Negative | 38.00 | MTB |
| 18 | Sputum | N/A | Negative | N/A | Negative |

2015-04-24 U Clinical Center

* Detection : AccuPower MTB & NTM Real-Time PCR Kit (Bioneer)

TB/NTM – LOD test

QIAcube vs Nextractor vs Nucleogen

| | Nextractor | | QIAcube | | Nucleogen | |
|------------|------------|----------|---------|----------|-----------|----------|
| | Result | Ct Value | Result | Ct Value | Result | Ct Value |
| A1 (1:1) | MTB | 36.43 | MTB | 38.5 | MTB | 36.47 |
| A2 (1:2) | MTB | 37.21 | MTB | 39.76 | MTB | 38.48 |
| A3 (1:4) | MTB | 38.68 | | | MTB | 37.74 |
| A4 (1:8) | MTB | 39.08 | MTB | 39.80 | | |
| A5 (1:16) | | | | | | |
| A6 (1:32) | | | | | | |
| A7 (1:64) | | | | | | |
| A8 (1:128) | | | | | | |
| B1 (1:1) | MTB | 32.60 | MTB | 36.14 | MTB | 34.65 |
| B2 (1:2) | MTB | 33.67 | MTB | 36.43 | MTB | 35.00 |
| B3 (1:4) | MTB | 35.18 | MTB | 38.15 | MTB | 37.03 |
| B4 (1:8) | MTB | 36.32 | MTB | 37.59 | MTB | 38.04 |
| B5 (1:16) | MTB | 37.39 | MTB | 37.78 | MTB | 38.20 |
| B6 (1:32) | MTB | 38.78 | MTB | 39.34 | | |
| B7 (1:64) | | | | | MTB | 39.85 |
| B8 (1:128) | | | | | | |

In each specimen(A,B,C,D), every stage is serial diluted by two fold

TB/NTM – LOD test

QIAcube vs Nextractor vs Nucleogen

| | Nextractor | | QIAcube | | Nucleogen | |
|------------|------------|----------|---------|----------|-----------|----------|
| | Result | Ct Value | Result | Ct Value | Result | Ct Value |
| C1 (1:1) | MTB | 34.27 | MTB | 37.9 | MTB | 36.55 |
| C2 (1:2) | MTB | 36.32 | MTB | 39.10 | MTB | 38.09 |
| C3 (1:4) | MTB | 36.26 | | | MTB | 39.08 |
| C4 (1:8) | MTB | 37.22 | | | | |
| C5 (1:16) | MTB | 39.58 | | | | |
| C6 (1:32) | MTB | 39.64 | MTB | 39.92 | | |
| C7 (1:64) | | | | | | |
| C8 (1:128) | | | | | | |
| D1 (1:1) | MTB | 26.16 | MTB | 30.11 | MTB | 29.77 |
| D2 (1:2) | MTB | 27.41 | MTB | 31.10 | MTB | 30.75 |
| D3 (1:4) | MTB | 28.81 | MTB | 31.45 | MTB | 30.02 |
| D4 (1:8) | MTB | 29.71 | MTB | 32.52 | MTB | 32.48 |
| D5 (1:16) | MTB | 31.07 | MTB | 33.62 | MTB | 33.63 |
| D6 (1:32) | MTB | 31.59 | MTB | 33.49 | MTB | 33.66 |
| D7 (1:64) | MTB | 34.16 | MTB | 34.25 | MTB | 34.54 |
| D8 (1:128) | MTB | 33.57 | MTB | 34.54 | MTB | 34.78 |

In each specimen(A,B,C,D), every stage is serial diluted by two fold

- **STD**

Manual or QIAcube vs Nextractor – swab

| Sample | QIAcube | Nextractor | Sample | G-spin™ Total DNA Extraction Mini Kit | Nextractor |
|--------|------------|------------|--------|---------------------------------------|------------|
| 1 | CT, UU | CT,UU | 16 | TV | TV |
| 2 | CT,UU,MG | CT,UU,MG | 17 | UU | UU |
| 3 | NG,UU | NG,UU | 18 | CT, GV | CT, GV |
| 4 | UU,CT | UU,CT | 19 | TV | TV |
| 5 | UU | UU | 20 | - | UU |
| 6 | CT,MG | CT,MG | 21 | CT | CT |
| 7 | NG,CT | NG | 22 | CA, GV, MH | CA, GV, MH |
| 8 | CT, GV | CT, GV | | | |
| 9 | UU | UU | | | |
| 10 | UU | - | | | |
| 11 | - | - | | | |
| 12 | UU | UU | | | |
| 13 | - | - | | | |
| 14 | CT | CT | | | |
| 15 | CA, GV, MH | CA, GV, MH | | | |

2013-08-08 U Clinical Center & 2014-03-14 L Clinical Center

Extraction : QIAcube (Qiagen) vs Nextractor (Genolution) – 1~15

Extraction : G-spin™ Total DNA Extraction Mini Kit (Intron) vs Nextractor (Genolution) – 16~22

Manual vs Nextractor – urine

| Sample | G-spin™ Total DNA Extraction Mini Kit | Nextractor | Sample | G-spin™ Total DNA Extraction Mini Kit | Nextractor |
|--------|---------------------------------------|------------|--------|---------------------------------------|------------|
| 1 | MH,UU | MH,UU | 11 | N | N |
| 2 | UU | UU | 12 | N | N |
| 3 | N | N | 13 | CT | CT |
| 4 | UU | N | 14 | N | N |
| 5 | N | N | 15 | CT,UU | CT,UU |
| 6 | N | N | 16 | N | N |
| 7 | N | N | 17 | NG | NG |
| 8 | N | N | 18 | UU | UU |
| 9 | WUU | N | 19 | N | N |
| 10 | NG | NG | 20 | N | WUU |

QIAxtractor vs Nextractor

| No. | Specimen | QIAxtractor | | Nextractor | |
|-----|---------------|-------------|--------|------------|--------|
| | | Ct | Result | Ct | Result |
| 1 | Urine | 32.54 | CT | 28.04 | CT |
| 2 | Urine | 31.72 | CT | 34.69 | CT |
| 3 | Urine | 40.06 | CT | 34.02 | CT |
| 4 | Urine | 35.33 | CT | 36.25 | CT |
| 5 | Urine | N/A | N/A | 34.19 | CT |
| 6 | Urine | 30.08 | CT | 30.94 | CT |
| 7 | Virginal Swab | 27.43 | CT | 29.16 | CT |
| 8 | Virginal Swab | 28.6 | CT | 29.78 | CT |
| 9 | Urine | 23.35 | NG | 26.85 | NG |
| 10 | Virginal Swab | 26.66 | UU | 30.03 | UU |
| 11 | Virginal Swab | 29.06 | UU | 27.05 | UU |
| 12 | Urine | 27.5 | UU | 29.13 | UU |
| 13 | Urine | 33.9 | UU | N/A | N |
| 14 | Virginal Swab | 26.56 | UU | 28.03 | UU |
| 15 | Virginal Swab | 30.33 | UU | 31.13 | UU |
| 16 | Urine | 28.48 | MG | 33.62 | MG |
| 17 | Urine | 27.4 | MG | 36.2 | MG |
| 18 | Virginal Swab | 25.89 | MH | 28.82 | MH |
| 19 | Virginal Swab | 24.42 | MH | 26.11 | MH |
| 20 | Virginal Swab | 26.99 | TV | 25.84 | TV |
| 21 | Virginal Swab | 27.2 | HSV1 | 27.4 | HSV1 |
| 22 | Virginal Swab | 26.68 | HSV2 | 27.11 | HSV2 |
| 23 | Urine | N/A | N | N/A | N |
| 24 | Urine | N/A | N | N/A | N |
| 25 | Urine | N/A | N | N/A | N |
| 26 | Urine | N/A | N | N/A | N |

2015-02-27 U Clinical Center

* Detection : AccuPower STI8A/B-Plex Real-Time PCR Kit (Bioneer)

QIAamp DNA Mini kit vs Nextractor

| Sample | Specimen | SET | QIAamp DNA Mini kit | | | | Nextractor | | | |
|--------|----------|-------|----------------------|-------|-------|-------|----------------------|-------|-------|-------|
| | | | Result | FAM | VIC | CY5 | Result | FAM | VIC | CY5 |
| 1 | Swab | CT/NG | CT positive | 32.88 | N/A | 32.34 | CT positive | 30.59 | N/A | 32.27 |
| | | MG/UU | Negative | N/A | N/A | 32.42 | Negative | 39.65 | N/A | 31.88 |
| | | MH/TV | Negative | N/A | N/A | 32.41 | Negative | N/A | N/A | 32.74 |
| 2 | Swab | CT/NG | Negative | N/A | N/A | 32.11 | Negative | N/A | N/A | 32.21 |
| | | MG/UU | UU positive | N/A | 31.92 | 31.72 | UU positive | N/A | 32.02 | 31.59 |
| | | MH/TV | MH positive | 37.32 | N/A | 32.57 | MH positive | 36.63 | N/A | 32.07 |
| 3 | Swab | CT/NG | Negative | N/A | N/A | 31.93 | Negative | N/A | N/A | 32.18 |
| | | MG/UU | UU positive | N/A | 32.28 | 31.91 | UU positive | N/A | 31.47 | 31.78 |
| | | MH/TV | Negative | N/A | N/A | 32.90 | Negative | N/A | N/A | 32.67 |
| 4 | Swab | CT/NG | CT positive | 25.09 | N/A | 33.30 | CT positive | 25.07 | N/A | 33.18 |
| | | MG/UU | Negative | N/A | N/A | 31.75 | Negative | N/A | N/A | 31.45 |
| | | MH/TV | Negative | N/A | N/A | 32.61 | Negative | N/A | N/A | 32.28 |
| 5 | Swab | CT/NG | CT positive | 27.70 | N/A | 31.87 | CT positive | 27.67 | N/A | 31.39 |
| | | MG/UU | Negative | N/A | 44.44 | 32.03 | Negative | N/A | N/A | 32.16 |
| | | MH/TV | MH positive | 26.49 | N/A | 33.25 | MH positive | 28.51 | N/A | 31.97 |
| 6 | Urine | CT/NG | NG positive | N/A | 35.03 | 31.76 | NG positive | N/A | 33.03 | 31.97 |
| | | MG/UU | Negative | N/A | N/A | 32.04 | Negative | N/A | N/A | 32.13 |
| | | MH/TV | Negative | N/A | N/A | 32.39 | Negative | N/A | N/A | 32.53 |
| 7 | Swab | CT/NG | Negative | N/A | N/A | 32.17 | Negative | N/A | N/A | 32.06 |
| | | MG/UU | MG & UU Co-infection | 27.45 | 28.31 | 32.79 | MG & UU Co-infection | 27.82 | 29.55 | 31.75 |
| | | MH/TV | Negative | N/A | N/A | 32.51 | Negative | N/A | N/A | 32.27 |
| 8 | Urine | CT/NG | Negative | N/A | N/A | 32.86 | Negative | N/A | N/A | 31.78 |
| | | MG/UU | Negative | N/A | N/A | 31.79 | Negative | N/A | N/A | 31.80 |
| | | MH/TV | MH positive | 36.5 | N/A | 32.71 | MH positive | 37.99 | N/A | 32.50 |

2015-03-16 S Clinical Center

* Detection : Real-Q CT & NG kit, MG & UU kit, MH & TV kit (Biosewoom)

QIAxtractor vs Nextractor vs Chelex 100 (Manual)

| QIAxtractor | | Nextractor | | Chelex 100 | |
|-------------|--------------|----------------|---------------------|------------|--------------|
| Result | Ct | Result | Ct | Result | Ct |
| N | Undetermined | N | Undetermined | N | Undetermined |
| UU | 31.76 | UU | 32.57 | UU | 35.66 |
| CT | 38.45 | CT, PU | 37.22 | CT, PU | 39.12 |
| N | Undetermined | N | Undetermined | N | Undetermined |
| N | Undetermined | N | Undetermined | N | Undetermined |
| UU,MH | 33.38, 35.39 | UU,MH | 32.81, 37.35 | MH | 37.13 |
| MG | 39.99 | MG | 27.62 | N | Undetermined |
| MH,GV | 37.92 | N | Undetermined | MH | 37.76 |
| UU | 35.77 | UU | 32.51 | N | Undetermined |
| UU,HSV2 | 33.95, 28.59 | UU,MH, HSV2 | 26.85, 31.93, 20.26 | HSV2 | 32.58 |
| HSV2 | 39.37 | HSV2 | 35.59 | HSV2 | 39.37 |

2015-06-06 U Clinical Center

* Detection : AccuPower ST18A/B-Plex Real-Time PCR Kit (Bioneer)

QIAxtractor vs Nextractor vs Chelex 100 (Manual)

| QIAxtractor | | Nextractor | | Chelex 100 | |
|-------------|--------------|------------|--------------|------------|--------------|
| Result | Ct | Result | Ct | Result | Ct |
| N | Undetermined | N | Undetermined | N | Undetermined |
| N | Undetermined | N | Undetermined | N | Undetermined |
| N | Undetermined | N | Undetermined | N | Undetermined |
| N | Undetermined | N | Undetermined | N | Undetermined |
| N | Undetermined | N | Undetermined | N | Undetermined |
| N | Undetermined | N | Undetermined | N | Undetermined |
| N | MH(41.62) | N | Undetermined | N | Undetermined |
| CT | 36.81 | CT | 30.51 | CT | 33.26 |
| NG | 34.47 | NG | 26.88 | NG | 30.47 |
| N | Undetermined | CT | 34.89 | CT | 37.85 |
| N | Undetermined | N | Undetermined | N | Undetermined |
| N | Undetermined | HSV2 | 40.66 | HSV2 | 38.2 |
| N | Undetermined | CT | 38.04 | CT | 35.27 |
| TV | 36.23 | TV | 32.09 | TV , MH | 33.79,37.63 |

2015-06-07 U Clinical Center

* Detection : Detection : AccuPower STI8A/B-Plex Real-Time PCR Kit (Bioneer)

QIAamp DNA Mini kit vs Nextractor

| Sample | SET | QIAamp DNA mini kit | | | | Nextractor | | | |
|--------|-------|---------------------|-------|-------|-------|------------|-------|-------|-------|
| | | Result | FAM | VIC | CY5 | Result | FAM | VIC | CY5 |
| 1 | CT/NG | Negative | N/A | N/A | 32.34 | Negative | N/A | N/A | 31.65 |
| | MG/UU | Negative | N/A | N/A | 32.79 | UU | N/A | 37.96 | 32.57 |
| | MH/TV | Negative | N/A | N/A | 32.74 | Negative | N/A | N/A | 32.39 |
| 2 | CT/NG | CT | 32.36 | N/A | 32.05 | CT | 33.83 | N/A | 32.14 |
| | MG/UU | Negative | N/A | N/A | 33.31 | Negative | N/A | N/A | 33.06 |
| | MH/TV | Negative | N/A | N/A | 32.70 | Negative | N/A | N/A | 32.75 |
| 3 | CT/NG | Negative | N/A | N/A | 32.21 | Negative | N/A | N/A | 31.84 |
| | MG/UU | Negative | N/A | N/A | 33.31 | Negative | N/A | N/A | 33.1 |
| | MH/TV | Negative | N/A | N/A | 32.81 | Negative | N/A | N/A | 32.6 |
| 4 | CT/NG | CT | 27.75 | N/A | 32.24 | CT | 28.09 | N/A | 32.57 |
| | MG/UU | Negative | N/A | N/A | 32.84 | Negative | N/A | N/A | 32.68 |
| | MH/TV | Negative | N/A | N/A | 32.62 | Negative | N/A | N/A | 32.77 |
| 5 | CT/NG | Negative | N/A | N/A | 32.01 | Negative | N/A | N/A | 32.2 |
| | MG/UU | Negative | N/A | N/A | 32.86 | Negative | N/A | N/A | 33.12 |
| | MH/TV | Negative | N/A | N/A | 32.46 | Negative | N/A | N/A | 33.12 |
| 6 | CT/NG | Negative | N/A | N/A | 32.02 | Negative | N/A | N/A | 31.99 |
| | MG/UU | UU | N/A | 35.86 | 32.74 | UU | N/A | 36.50 | 33.13 |
| | MH/TV | Negative | N/A | N/A | 32.69 | Negative | N/A | N/A | 32.65 |
| 7 | CT/NG | CT | 32.76 | N/A | 32.03 | CT | 33.34 | N/A | 31.73 |
| | MG/UU | Negative | N/A | N/A | 33.16 | Negative | N/A | N/A | 32.83 |
| | MH/TV | Negative | N/A | N/A | 32.77 | Negative | N/A | N/A | 33.04 |
| 8 | CT/NG | Negative | N/A | N/A | 32.08 | Negative | N/A | N/A | 32.03 |
| | MG/UU | UU | N/A | 36.47 | 32.85 | UU | N/A | 37.60 | 32.77 |
| | MH/TV | Negative | N/A | N/A | 32.77 | Negative | N/A | N/A | 32.57 |

* Detection : Real-Q CT & NG kit, MG & UU kit, MH & TV kit (Biosewom)

QIAamp DNA Mini kit vs Nextractor

| Sample | SET | QIAamp DNA Mini Kit | | | | Nextractor | | | |
|--------|-------|---------------------|-------|-------|-------|------------|-------|-------|-------|
| | | Result | FAM | VIC | CY5 | Result | FAM | VIC | CY5 |
| 9 | CT/NG | UU | N/A | 25.72 | 36.66 | UU | N/A | 25.12 | 38.09 |
| | MG/UU | UU | N/A | 30.60 | 32.38 | UU | N/A | 29.70 | 32.77 |
| | MH/TV | Negative | N/A | N/A | 32.46 | Negative | N/A | N/A | 33.29 |
| 10 | CT/NG | CT | 36.82 | N/A | 31.55 | CT | 33.20 | N/A | 31.79 |
| | MG/UU | Negative | N/A | N/A | 32.77 | Negative | N/A | N/A | 33.16 |
| | MH/TV | Negative | N/A | N/A | 32.55 | Negative | N/A | N/A | 32.62 |
| 11 | CT/NG | Negative | N/A | N/A | 31.97 | Negative | N/A | N/A | 31.73 |
| | MG/UU | Negative | N/A | N/A | 32.82 | UU | N/A | 35.07 | 32.83 |
| | MH/TV | Negative | N/A | N/A | 32.53 | Negative | N/A | N/A | 33.19 |
| 12 | CT/NG | Negative | N/A | N/A | 31.73 | Negative | N/A | N/A | 31.87 |
| | MG/UU | Negative | N/A | N/A | 32.50 | Negative | N/A | N/A | 33.26 |
| | MH/TV | Negative | N/A | N/A | 32.26 | Negative | N/A | N/A | 33.01 |
| 13 | CT/NG | CT | 35.20 | N/A | 31.81 | CT | 33.38 | N/A | 32.13 |
| | MG/UU | Negative | N/A | N/A | 33.13 | Negative | N/A | N/A | 33.01 |
| | MH/TV | Negative | N/A | N/A | 32.46 | Negative | N/A | N/A | 32.66 |
| 14 | CT/NG | CT | 31.57 | N/A | 31.89 | CT | 30.94 | N/A | 32.15 |
| | MG/UU | Negative | N/A | N/A | 32.58 | Negative | N/A | N/A | 32.78 |
| | MH/TV | Negative | N/A | N/A | 32.41 | MH | 36.18 | N/A | 32.89 |
| 15 | CT/NG | Negative | N/A | N/A | 31.69 | NG | N/A | 35.66 | 31.73 |
| | MG/UU | Negative | N/A | N/A | 32.77 | Negative | N/A | N/A | 32.84 |
| | MH/TV | Negative | N/A | N/A | 32.63 | Negative | N/A | N/A | 32.72 |
| 16 | CT/NG | Negative | N/A | N/A | 32.22 | Negative | N/A | N/A | 31.91 |
| | MG/UU | Negative | N/A | N/A | 33.38 | Negative | N/A | N/A | 33.17 |
| | MH/TV | MH | 37.62 | N/A | 32.90 | MH | 36.32 | N/A | 32.59 |

* Detection : Real-Q CT & NG kit, MG & UU kit, MH & TV kit (Biosewom)

QIAamp DNA Mini kit vs Nextractor

| Sample | SET | QIAamp DNA mini kit | | | | Nextractor | | | |
|--------|-------|---------------------|-------|-------|-------|------------|-------|-------|-------|
| | | Result | FAM | VIC | CY5 | Result | FAM | VIC | CY5 |
| 17 | CT/NG | Negative | N/A | N/A | 32.40 | Negative | N/A | N/A | 32.02 |
| | MG/UU | MG | 35.55 | N/A | 33.37 | MG | 33.43 | N/A | 33.09 |
| | MH/TV | MH | 34.02 | N/A | 32.88 | MH | 32.80 | N/A | 32.95 |
| 18 | CT/NG | Negative | N/A | N/A | 32.27 | Negative | N/A | N/A | 31.83 |
| | MG/UU | UU | N/A | 31.17 | 33.10 | UU | N/A | 32.41 | 33.1 |
| | MH/TV | Negative | N/A | N/A | 32.48 | Negative | N/A | N/A | 32.58 |
| 19 | CT/NG | Negative | N/A | N/A | 31.85 | Negative | N/A | N/A | 31.85 |
| | MG/UU | Negative | N/A | N/A | 32.80 | Negative | N/A | N/A | 32.9 |
| | MH/TV | Negative | N/A | N/A | 32.37 | Negative | N/A | N/A | 32.57 |
| 20 | CT/NG | Negative | N/A | N/A | 32.14 | Negative | N/A | N/A | 31.63 |
| | MG/UU | Negative | N/A | N/A | 32.56 | Negative | N/A | N/A | 32.94 |
| | MH/TV | Negative | N/A | N/A | 32.73 | Negative | N/A | N/A | 32.96 |
| 21 | CT/NG | Negative | N/A | N/A | 32.14 | Negative | N/A | N/A | 32.04 |
| | MG/UU | Negative | N/A | N/A | 32.55 | Negative | N/A | N/A | 33.04 |
| | MH/TV | Negative | N/A | N/A | 32.41 | Negative | N/A | N/A | 32.49 |
| 22 | CT/NG | Negative | N/A | N/A | 32.15 | Negative | N/A | N/A | 32.08 |
| | MG/UU | Negative | N/A | N/A | 33.09 | Negative | N/A | N/A | 32.99 |
| | MH/TV | Negative | N/A | N/A | 33.00 | Negative | N/A | N/A | 32.63 |
| 23 | CT/NG | Negative | N/A | N/A | 32.33 | Negative | N/A | N/A | 32.02 |
| | MG/UU | Negative | N/A | N/A | 32.77 | Negative | N/A | N/A | 33.01 |
| | MH/TV | Negative | N/A | N/A | 32.45 | Negative | N/A | N/A | 32.85 |
| 24 | CT/NG | Negative | N/A | N/A | 31.87 | Negative | N/A | N/A | 31.83 |
| | MG/UU | Negative | N/A | N/A | 32.74 | Negative | N/A | N/A | 33.09 |
| | MH/TV | Negative | N/A | N/A | 32.19 | Negative | N/A | N/A | 32.73 |
| 25 | CT/NG | Negative | N/A | N/A | 31.99 | Negative | N/A | N/A | 31.97 |
| | MG/UU | Negative | N/A | N/A | 33.05 | Negative | N/A | N/A | 32.68 |
| | MH/TV | Negative | N/A | N/A | 32.88 | Negative | N/A | N/A | 32.82 |

* Detection : Real-Q CT & NG kit, MG & UU kit, MH & TV kit (Biosewom)

QIAamp DNA Mini kit vs Nextractor

| Sample | SET | QIAamp DNA mini kit | | | | Nextractor | | | |
|--------|-------|---------------------|-----|-----|-------|------------|-------|-----|-------|
| | | Result | FAM | VIC | CY5 | Result | FAM | VIC | CY5 |
| 26 | CT/NG | Negative | N/A | N/A | 32.00 | Negative | N/A | N/A | 31.74 |
| | MG/UU | Negative | N/A | N/A | 32.84 | Negative | N/A | N/A | 32.47 |
| | MH/TV | Negative | N/A | N/A | 32.63 | Negative | N/A | N/A | 32.48 |
| 27 | CT/NG | Negative | N/A | N/A | 32.02 | Negative | N/A | N/A | 31.73 |
| | MG/UU | Negative | N/A | N/A | 32.91 | Negative | N/A | N/A | 32.78 |
| | MH/TV | Negative | N/A | N/A | 32.41 | Negative | N/A | N/A | 32.29 |
| 28 | CT/NG | Negative | N/A | N/A | 31.84 | Negative | N/A | N/A | 31.61 |
| | MG/UU | Negative | N/A | N/A | 32.61 | Negative | N/A | N/A | 32.99 |
| | MH/TV | Negative | N/A | N/A | 32.51 | Negative | N/A | N/A | 32.56 |
| 29 | CT/NG | Negative | N/A | N/A | 32.15 | Negative | N/A | N/A | 31.83 |
| | MG/UU | Negative | N/A | N/A | 32.82 | Negative | N/A | N/A | 32.62 |
| | MH/TV | Negative | N/A | N/A | 32.47 | Negative | N/A | N/A | 32.46 |
| 30 | CT/NG | Negative | N/A | N/A | 31.89 | Negative | N/A | N/A | 32.04 |
| | MG/UU | Negative | N/A | N/A | 32.56 | Negative | N/A | N/A | 33.07 |
| | MH/TV | Negative | N/A | N/A | N/A | Negative | N/A | N/A | 32.24 |
| 31 | CT/NG | Negative | N/A | N/A | 32.39 | Negative | N/A | N/A | 31.93 |
| | MG/UU | Negative | N/A | N/A | 32.91 | MG | 34.65 | N/A | 32.66 |
| | MH/TV | Negative | N/A | N/A | 32.49 | Negative | N/A | N/A | 32.42 |
| 32 | CT/NG | Negative | N/A | N/A | 31.9 | Negative | N/A | N/A | 31.96 |
| | MG/UU | Negative | N/A | N/A | 32.93 | Negative | N/A | N/A | 33.15 |
| | MH/TV | Negative | N/A | N/A | 32.46 | Negative | N/A | N/A | 33.04 |

* Detection : Real-Q CT & NG kit, MG & UU kit, MH & TV kit (Biosewom)

QIAamp DNA Mini kit vs Nextractor

| Sample | SET | QIAamp DNA mini kit | | | | Nextractor | | | |
|--------|-------|---------------------|-------|-------|-------|------------|-------|-------|-------|
| | | Result | FAM | VIC | CY5 | Result | FAM | VIC | CY5 |
| 33 | CT/NG | Negative | N/A | N/A | 32.01 | Negative | N/A | N/A | 32.08 |
| | MG/UU | Negative | N/A | N/A | 33.00 | Negative | N/A | N/A | 32.75 |
| | MH/TV | Negative | N/A | N/A | 32.90 | Negative | N/A | N/A | 32.62 |
| 34 | CT/NG | Negative | N/A | N/A | 31.74 | Negative | N/A | N/A | 32.14 |
| | MG/UU | UU | N/A | 27.18 | 35.25 | UU | N/A | 27.42 | 33.67 |
| | MH/TV | Negative | N/A | N/A | 33.63 | Negative | N/A | N/A | 32.71 |
| 35 | CT/NG | Negative | N/A | N/A | 33.20 | Negative | N/A | N/A | 31.75 |
| | MG/UU | UU | N/A | 35.81 | 34.64 | UU | N/A | 34.00 | 33.19 |
| | MH/TV | Negative | N/A | N/A | 34.27 | Negative | N/A | N/A | 32.76 |
| 36 | CT/NG | CT | 34.38 | N/A | 31.51 | CT | 32.38 | N/A | 31.45 |
| | MG/UU | Negative | N/A | N/A | 32.61 | UU | N/A | 36.30 | 32.87 |
| | MH/TV | Negative | N/A | N/A | 32.37 | Negative | N/A | N/A | 32.40 |
| 37 | CT/NG | CT | 31.53 | N/A | 31.75 | CT | 31.43 | N/A | 31.44 |
| | MG/UU | Negative | N/A | N/A | 32.87 | Negative | N/A | N/A | 32.88 |
| | MH/TV | Negative | N/A | N/A | 32.77 | Negative | N/A | N/A | 32.27 |
| 38 | CT/NG | Negative | N/A | N/A | 32.00 | Negative | N/A | N/A | 31.66 |
| | MG/UU | UU | N/A | 31.92 | 32.93 | UU | N/A | 32.58 | 32.41 |
| | MH/TV | Negative | N/A | N/A | 32.51 | Negative | N/A | N/A | 32.59 |
| 39 | CT/NG | Negative | N/A | N/A | 30.94 | Negative | N/A | N/A | 32.09 |
| | MG/UU | UU | N/A | 28.36 | 33.33 | UU | N/A | 25.97 | 34.59 |
| | MH/TV | Negative | N/A | N/A | 32.72 | Negative | N/A | N/A | 32.58 |

* Detection : Real-Q CT & NG kit, MG & UU kit, MH & TV kit (Biosewom)

QIAamp DNA Mini kit vs Nextractor

| | QIAamp DNA Mini Kit | Nextractor | Specimen |
|----|---------------------|----------------|----------|
| 1 | NG | NG | Swab |
| 2 | MG | MG | Swab |
| 3 | MH | MH | Swab |
| 4 | MH | MH | Swab |
| 5 | GV,UU,MH | MH, GV | Swab |
| 6 | CA | CA | Swab |
| 7 | GV | GV | Swab |
| 8 | MH | MH | Swab |
| 9 | UU,MH,GV | MH, UU, MG, GV | Swab |
| 10 | GV | GV | Swab |
| 11 | HSV2 | HSV2 | Swab |
| 12 | CT | CT | Swab |
| 13 | UU | UU | Swab |
| 14 | GV | GV | Swab |
| 15 | UU, TV | UU, TV | Swab |
| 16 | GV | GV | Swab |
| 17 | UU, MH, GV | UU, MH, GV | Swab |
| 18 | CT | CT | Urine |
| 19 | GV, CA, UU, MH | GV, UU, MH | Swab |
| 20 | UU | UU | Swab |
| 21 | UU | UU | Swab |
| 22 | CT, UU | CT, UU | Swab |
| 23 | UU | UU | Swab |
| 24 | GV, MH | GV, MH | Swab |
| 25 | UU | UU | Swab |
| 26 | UU, MH | UU, MH | Swab |
| 27 | UU | UU | Swab |

2015-11-10 S Clinical Center

* Detection : DiaPlexQ™STI 12 Detection Kit (Solgent)

QIAamp DNA Mini kit vs Nextractor

| Set 1 (NG,CT,MH) | | | | Set 2 (TV,UU,MG) | | | |
|------------------|----------|------------|---------------------|------------------|----------|------------|---------------------|
| No. | Specimen | Nextractor | QIAamp DNA Mini Kit | No. | Specimen | Nextractor | QIAamp DNA Mini Kit |
| 1 | Swab | CT | CT | 1 | Swab | - | - |
| 2 | Swab | - | - | 2 | Swab | MG,UU | MG,UU |
| 3 | Swab | MH,NG | MH,NG | 3 | Swab | - | - |
| 4 | Swab | - | MH | 4 | Swab | MG,UU | MG,UU |
| 5 | Swab | CT | MH,CT | 5 | Swab | - | - |
| 6 | Swab | CT | CT | 6 | Swab | - | - |
| 7 | Swab | MH | MH | 7 | Swab | UU | UU |
| 8 | Swab | CT | CT | 8 | Swab | - | - |
| 9 | Swab | MH | MH | 9 | Swab | UU | UU |
| 10 | Swab | MH,CT | MH,CT | 10 | Swab | UU | UU |
| 11 | Urine | CT | CT | 11 | Urine | - | - |
| 12 | Urine | - | - | 12 | Urine | - | - |
| 13 | Urine | - | - | 13 | Urine | - | - |
| 14 | Urine | - | - | 14 | Urine | - | - |
| 15 | Urine | - | - | 15 | Urine | - | - |
| 16 | Urine | - | - | 16 | Urine | - | - |
| 17 | Urine | - | - | 17 | Urine | - | - |
| 18 | Urine | CT | CT | 18 | Urine | - | - |
| 19 | Urine | NG | NG | 19 | Urine | - | - |
| 20 | Urine | - | - | 20 | Urine | - | - |

2015-12-02 S company

* Detection : DiaPlexQ™ ST112 Detection Kit (Solgent)

Nexttractor vs 202 Magcore Viral Nucleic Acid Kit (RBC Bioscience)



| ID | Genolution | Magcore |
|------------|-----------------------|------------------------|
| 1 (urine) | CT(++) | CT(++) |
| 2 (urine) | - | - |
| 3 (urine) | UP(++),MH(++) | UP(++),MH(++) |
| 4 (urine) | UP(+) | UP(++) |
| 5 (urine) | UP(++) | UP(++) |
| 6 (urine) | - | - |
| 7 (QC) | MG(+++),NG(++) | MG(+++),NG(++) |
| 8 (QC) | MH(+++),NG(+) | MH(+++) |
| 9 (eNAT) | UP(+++),MH(++),TV(++) | UP(++),MH(++),TV(++) |
| 10 (eNAT) | UU(+++),MH(++) | UU(++),MH(++) |
| 11 (eNAT) | UP(++),MG(++),MH(+) | UP(+++),MG(++),MH(++) |
| 12 (eNAT) | UU(++),UP(++),MH(+) | UU(+),UP(++),MH(+) |
| 13 (eSWAB) | TV(+++) | MH(+),TV(+++) |
| 14 (eSWAB) | CT(++) | CT(++) |
| 15 (eSWAB) | UU(+++),MG(++),MH(++) | UU(+++),MG(++),MH(+++) |
| 16 (eSWAB) | UP(++),CT(+++) | UU(++),UP(+++),CT(+++) |

2016-02-11 A company (Italy)

Sample : Swab 200 ul / Urine 400 ul
 Detection : Anyplex II STI-7 v1.1 (Seegene)

- HPV

Manual vs Nextractor – swab

Extraction : G-spin™ Total DNA Extraction Mini Kit (Intron) vs Nextractor (Genolution)

| No. | Manual | Nextractor |
|-----|----------------|----------------|
| 1 | N | N |
| 2 | N | N |
| 3 | X | X |
| 4 | 33 | 33 |
| 5 | 11, 40 | 11, 40 |
| 6 | other | other |
| 7 | N | N |
| 8 | 16, 45, 11, 54 | 16, 45, 11, 54 |
| 9 | other | other |
| 10 | 39 | 39 |
| 11 | N | N |
| 12 | 33 | 33 |
| 13 | N | N |
| 14 | N | N |
| 15 | other | other |

| No. | Manual | Nextractor |
|---|--------|------------|
| 16 | 31 | HR |
| 17 | 6 | LR |
| | 51 | HR |
| 18 | 58 | HR |
| 19 | 35 | HR |
| 20 | 66 | HR |
| 21 | 33 | HR |
| 22 | 16 | 16 |
| 23 | 53 | HR |
| 24 | 81 | LR |
| 25 | 70 | LR |
| HRC : 26,31,33,35,39,45,51,52,53,56,58,59,66,68,73,82 | | |

2013-08-08 U Clinical Center & 2014-02-20 L Clinical Center

Detection : Lab-genomics, Korea

Manual vs Nextractor – swab

Extraction : G-spin™ Total DNA Extraction Mini Kit(Intron) vs Nextractor (Genolution)

| No. | Manual | Nextractor |
|-----|--------|------------|
| 1 | other | other |
| 2 | 39 | 39 |
| 3 | N | N |
| 4 | 33 | 33 |
| 5 | N | N |
| 6 | N | N |
| 7 | other | other |

2014-02-20



reproducibility

| No. | Manual | Nextractor |
|-----|--------|------------|
| 1 | other | other |
| 2 | 39 | 39 |
| 3 | N | N |
| 4 | 33 | 33 |
| 5 | N | N |
| 6 | N | N |
| 7 | other | other |

2014-03-14

2014-02-20, 2014-03-14 L Clinical Center

Detection : Lab-genomics, Korea

QIAxtractor vs Nextractor

| No. | specimen | QIAxtractor | Nextractor |
|-----|----------|-------------|------------|
| 1 | VS | 58 | 58 |
| 2 | VS | Negative | Negative |
| 3 | VS | 68 | 68 |
| 4 | VS | 16 | 16 |
| 5 | VS | 35 | 35 |
| 6 | VS | 16,52 | 16,52 |
| 7 | VS | 18,58 | 18,58 |
| 8 | VS | 58 | Negative |
| 9 | VS | 16 | 16 |
| 10 | T | 11 | 11 |
| 11 | VS | 61 | 61 |
| 12 | T | 6 | 6 |
| 13 | VS | 54 | 54 |
| 14 | T | 11 | 11 |
| 15 | T | 6 | 6 |
| 16 | T | 11 | 11 |
| 17 | VS | Negative | Negative |
| 18 | VS | Negative | Negative |
| 19 | VS | Negative | Negative |
| 20 | VS | 6 | 6 |
| 21 | T | Negative | Negative |
| 22 | T | Negative | Negative |
| 23 | T | Negative | Negative |
| 24 | VS | Negative | Negative |
| 25 | VS | Negative | Negative |
| 26 | VS | Negative | Negative |
| 27 | VS | Negative | Negative |
| 28 | VS | Negative | Negative |

2015-03-19~2015-03-27 U Clinical Center

Detection : HPV DNA Chip™ Kit (AGBio diagnostics , Korea)

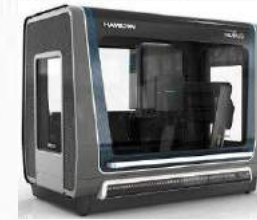
Manual vs Nextractor

| No. | Nextractor | | | YD extraction Kit | | |
|-----|------------------|--------------|-------------|-------------------|--------------|-------------|
| | Result | HPV genotype | Marker Lane | Result | HPV genotype | Marker Lane |
| 1 | Negative | HPV Negative | Positive | Negative | HPV Negative | Positive |
| 2 | Negative | HPV Negative | Positive | Negative | HPV Negative | Positive |
| 3 | Negative | HPV Negative | Positive | Negative | HPV Negative | Positive |
| 4 | Negative | HPV Negative | Positive | Negative | HPV Negative | Positive |
| 5 | Positive | HPV 59/68 | Positive | Positive | HPV 59/68 | Positive |
| 6 | Negative | HPV Negative | Positive | Negative | HPV Negative | Positive |
| PC | Positive | HPV 33 | Positive | | | |
| NC | Fail to analysis | Invalid | Positive | | | |
| NC | Fail to analysis | Invalid | Positive | | | |

2015-11-10 S Clinical Center

Detection : MolecuTech REBA HPV-ID (YD , Korea)

Next extractor vs Magcore vs NIMBUS



| Genolution | Magcore | Previously result (NIMBUS Sanremo) |
|----------------------------------|-----------------------------------|------------------------------------|
| 66(+) | 66(++) | 66 |
| 35(+++),56(+),42(+++) | 35(+++),56(++),42(+++),54(+) | 35,56,42 |
| 42(+) | 39(++),35(+),31(+),42(++) | 31,39,42 |
| 51(++) | 51(++) | 51 |
| 6(+) | - | 6 |
| 58(+++),18(+),61(+++) | 58(+++),35(+),18(+),42(+),61(+++) | 58,61 |
| 42(++) | 58(+),52(++),42(++),61(+) | 52,42 |
| 59(+),33(++),68(++),42(+),53(++) | 59(+),33(++),68(++),42(++),53(++) | 59,33,68,42,53 |
| 16(+),26(++) | 16(++),26(++) | 16,26 |
| 16(+++),42(+) | 16(+++),42(++) | 16,42 |

2016-02-10 A company (Italy)

Extraction : Next extractor-HPV Extraction Kit (Genolution) vs 202 Magcore Viral Nucleic Acid Kit (RBC Bioscience) vs NIMBUS (Seegene)

Sample : Swab 200 ul

Detection : Anyplex II HPV28 (Seegene)

Nexttractor vs QIAamp DNA Mini kit

| No. | Nexttractor | | QIAamp DNA Mini kit | |
|-----|-------------|------------|---------------------|------------|
| | 18 type Ct | Control Ct | 18 type Ct | Control Ct |
| 1 | - | 22.84 | - | 22.71 |
| 2 | - | 21.86 | - | 21.08 |
| 3 | - | 32.40 | - | 32.25 |
| 4 | 32.95 | 30.61 | - | 29.54 |
| 5 | - | 25.58 | - | 21.27 |
| 6 | - | 27.99 | - | 27.42 |
| 7 | 24.70 | 26.97 | - | - |
| 8 | - | 28.32 | - | 28.95 |

2016-02-01 W company

Sample : Swab 200 ul
 Detection : HPV screening kit-PNT (Wells Bio)

- HBV

Roche vs Nextractor

| Sample | Roche QT (IU/ml) | Nextractor QT (IU/ml) | Sample | Roche QT (IU/ml) | Nextractor QT (IU/ml) |
|---------------------|------------------|-----------------------|--------|------------------|-----------------------|
| 1 | 4.47E+07 | 1.36E+07 | 13 | 29.32E+01 | 2.04E+02 |
| 2 | <20 | <20 | 14 | >1.70E+08 | 1.83E+08 |
| 3 | <20 | <20 | 15 | <20 | <20 |
| 4 | 4.34E+01 | 4.11E+01 | 16 | <20 | <20 |
| 5 | <20 | 2.62E+01 | 17 | <20 | <20 |
| 6 | 5.30E+05 | 2.45E+05 | 18 | <20 | <20 |
| 7 | <20 | <20 | 19 | <20 | <20 |
| 8 | <20 | <20 | 20 | <20 | <20 |
| 9 | <20 | <20 | 21 | <20 | <20 |
| 10 | 2.66E+02 | 7.61E+01 | 22 | 4.30E+02 | 2.75E+02 |
| 11 | 1.63E+08 | 2.90E+07 | 23 | 3.59E+02 | 2.51E+02 |
| 12 | >1.70E+08 | 1.14E+08 | 24 | <20 | <20 |
| Reference : 20IU/ml | | | | | |

2014-06-11 G Clinical Center

Extraction : COBAS® AmpliPrep (Roche) vs Nextractor (Genolution)

Detection : COBAS® TaqMan® HBV Test (Roche) vs Real-Q HBV Quantification Kit (Biosewoom , Korea)

QIAamp MinElute Virus Spin kit vs Nextractor

| Sample | Specimen | QIAamp MinElute Virus Spin Kit | | Nextractor | |
|--------|----------|--------------------------------|----------|------------|---------|
| | | HBV Ct | HBV QT | HBV Ct | HBV QT |
| 1 | Plasma | N/A | N/A | N/A | N/A |
| 2 | Plasma | 31.1 | 9.9E+03 | 31.2 | 9.2E+03 |
| 3 | Plasma | 38.7 | 5.0E+01 | 39.0 | 4.0E+01 |
| 4 | Plasma | 35.4 | 5.1E+02 | 35.5 | 4.8E+02 |
| 5 | Plasma | N/A | N/A | 39.8 | 2.4E+01 |
| 6 | Plasma | 37.3 | 1.4E+02 | N/A | N/A |
| 7 | Plasma | 35.0 | 6.6E+02 | 33.9 | 1.4E+03 |
| 8 | Plasma | N/A | N/A | N/A | N/A |
| 9 | Plasma | 23.5 | 2.1E+06 | 20.0 | 2.3E+07 |
| 10 | Plasma | 36.1 | 3.0E+02 | 38.8 | 4.7E+01 |
| 11 | Plasma | 36.8 | 1.9E+02 | 37.9 | 9.0E+01 |
| 12 | Plasma | 39.2 | 3.6E+01 | 35.5 | 4.9E+02 |
| 13 | Plasma | 20.5 | 1.7E+07 | 21.4 | 9.2E+06 |
| 14 | Plasma | 30.2 | 1.9E+04 | 28.4 | 7.0E+04 |
| 15 | Plasma | 29.1 | 4.10E+04 | 27.89 | 9.6E+04 |
| 16 | Plasma | 34.5 | 9.43E+02 | 35.87 | 3.6E+02 |

Corbett vs Nextractor

| sample | Corbett | | Nextractor | |
|--------|---------|----------------|------------|----------------|
| | HBV Ct | HBV QT (IU/ml) | HBV Ct | HBV QT (IU/ml) |
| 1 | 22.5 | 10,207,771 | 21.4 | 11,130,026 |
| 2 | N/A | <20 | N/A | <20 |
| 3 | N/A | <20 | N/A | <20 |
| 4 | N/A | <20 | N/A | <20 |
| 5 | N/A | <20 | N/A | <20 |
| 6 | N/A | <20 | N/A | <20 |
| 7 | N/A | <20 | N/A | <20 |
| 8 | N/A | <20 | N/A | <20 |
| 9 | 39.9 | 39 | 34.9 | 706 |
| 10 | 37.0 | 60,859,799 | 18.8 | 74,143,039 |
| 11 | 41.3 | 98,030 | 27.6 | 130,851 |
| 12 | 34.4 | <20 | 39.5 | 26 |
| 13 | 34.2 | 288 | 34.1 | 1,207 |
| 14 | 36.2 | <20 | N/A | <20 |
| 15 | N/A | <20 | 38.2 | 62 |
| 16 | 35.7 | <20 | N/A | <20 |

Reference: <20IU/ml

- RV

QIAamp MinElute Virus Spin kit
vs Nextractor

| Sample | QIAamp MinElute Virus Spin kit | | | Nextractor | | |
|--------|--------------------------------|-------------|-------------|----------------------------|-------------|-------------|
| | Result | Flu A (<38) | Flu B (<38) | Result | Flu A (<38) | Flu B (<38) |
| 1 | Flu A & Flu B Co-infection | 32.52 | 28.24 | Flu A & Flu B Co-infection | 35.86 | 34.38 |
| 2 | Flu A & Flu B Co-infection | 36.62 | 32.02 | Flu A & Flu B Co-infection | 36.47 | 34.9 |
| 3 | Flu A & Flu B Co-infection | 34.92 | 30.38 | Flu A & Flu B Co-infection | 36.04 | 32.89 |
| 4 | Flu A & Flu B Co-infection | 23.8 | 33.03 | Flu A & Flu B Co-infection | 24.18 | 34.64 |
| 5 | Flu A positive | 28.04 | 38.31 | Flu A & Flu B Co-infection | 30.14 | 33.35 |
| 6 | Flu A & Flu B Co-infection | 36.62 | 33.68 | Flu A & Flu B Co-infection | 34.2 | 33.14 |
| 7 | Flu B positive | 40.96 | 19.71 | Flu A & Flu B Co-infection | 34.23 | 19.12 |
| 8 | Flu A & Flu B Co-infection | 36.32 | 20.46 | Flu A & Flu B Co-infection | 34.52 | 19.24 |
| 9 | Flu B positive | 39.17 | 19.9 | Flu B positive | 38.11 | 19.89 |
| 10 | Flu A & Flu B Co-infection | 22.03 | 31.88 | Flu A & Flu B Co-infection | 21.42 | 27.97 |
| 11 | Flu A & Flu B Co-infection | 21.21 | 35.04 | Flu A & Flu B Co-infection | 21.3 | 29.4 |
| 12 | Flu A & Flu B Co-infection | 18.28 | 34.72 | Flu A & Flu B Co-infection | 19.25 | 30.58 |
| 13 | Flu B positive | 44.63 | 20.07 | Flu A & Flu B Co-infection | 27.81 | 18.67 |
| 14 | Flu A & Flu B Co-infection | 16.78 | 34 | Flu A & Flu B Co-infection | 20.52 | 26.36 |
| 15 | Flu A positive | 18.65 | N/A | Flu A positive | 20.53 | N/A |
| 16 | Flu B positive | N/A | 19.21 | Flu B positive | N/A | 18.35 |
| 17 | Flu A positive | 19.63 | N/A | Flu A positive | 20.35 | N/A |
| 18 | Flu A & Flu B Co-infection | 35.49 | 20.03 | Flu A & Flu B Co-infection | 30.7 | 19.08 |
| 19 | Flu B positive | N/A | 23.35 | Flu B positive | N/A | 19.36 |
| 20 | Flu A & Flu B Co-infection | 20.77 | 34.61 | Flu A positive | 20.78 | N/A |

QIAamp MinElute Virus Spin kit
vs Nextractor

| Sample | QIAamp MinElute Virus Spin kit | | | Nextractor | | |
|--------|--------------------------------|-------------|-------------|----------------------------|-------------|-------------|
| | Result | Flu A (<38) | Flu B (<38) | Result | Flu A (<38) | Flu B (<38) |
| 21 | Flu A & Flu B Co-infection | 35.45 | 23.09 | Flu A & Flu B Co-infection | 30.01 | 21.16 |
| 22 | Flu A positive | 18.75 | 39.6 | Flu A positive | 19.32 | N/A |
| 23 | Flu B positive | 39.42 | 18.41 | Flu A & Flu B Co-infection | 30.33 | 19.17 |
| 24 | Flu A & Flu B Co-infection | 35.81 | 19.46 | Flu A & Flu B Co-infection | 32.4 | 20.03 |
| 25 | Flu A & Flu B Co-infection | 33.66 | 19.11 | Flu A & Flu B Co-infection | 32.13 | 19.75 |
| 26 | Flu A & Flu B Co-infection | 37.77 | 20.47 | Flu A & Flu B Co-infection | 32.38 | 20.37 |
| 27 | Flu A & Flu B Co-infection | 21.06 | 28.52 | Flu A & Flu B Co-infection | 22.32 | 27.26 |
| 28 | Flu A & Flu B Co-infection | 29.38 | 20.62 | Flu A & Flu B Co-infection | 29.51 | 20.4 |
| 29 | Flu A & Flu B Co-infection | 17.62 | 29.8 | Flu A & Flu B Co-infection | 19.44 | 27.45 |
| 30 | Flu A & Flu B Co-infection | 21.82 | 29.97 | Flu A & Flu B Co-infection | 22.14 | 28.61 |
| 31 | Flu B positive | 40.6 | 17.53 | Flu B positive | N/A | 17.42 |
| 32 | Flu A & Flu B Co-infection | 26.84 | 19.25 | Flu A & Flu B Co-infection | 30.07 | 18.36 |
| 33 | Flu A & Flu B Co-infection | 29.17 | 18.75 | Flu A & Flu B Co-infection | 30.48 | 18.04 |
| 34 | Flu A & Flu B Co-infection | 19.37 | 37.75 | Flu A positive | 19.44 | N/A |
| 35 | Flu A & Flu B Co-infection | 21.02 | 34.35 | Flu A positive | 20.94 | N/A |
| 36 | Flu A & Flu B Co-infection | 18.6 | 33.33 | Flu A positive | 19.1 | N/A |

QIAamp MinElute Virus Spin kit vs Nextractor

| No. | QIAamp MinElute Virus Spin kit | | | | Nextractor | | | | No. | QIAamp MinElute Virus Spin kit | | | | Nextractor | | | |
|-----|--------------------------------|-------|-------|-------|------------|-------|-------|-------|-----|--------------------------------|-------|-------|-------|------------|-------|-------|-------|
| | Inf A | PIV-4 | Inf B | PCRC | Inf A | PIV-4 | Inf B | PCRC | | Inf A | PIV-4 | Inf B | PCRC | Inf A | PIV-4 | Inf B | PCRC |
| 1 | - | - | - | - | - | - | 38.15 | 17.87 | 19 | 17.68 | - | 33.08 | 17.33 | - | - | 16.44 | 16.88 |
| 2 | - | - | - | 17.05 | - | - | 33.09 | 17.07 | 20 | - | - | 29.77 | - | 17.96 | - | - | 17.04 |
| 3 | - | - | 34.28 | 16.92 | - | - | 30.56 | 17.29 | 21 | - | - | 17.20 | 16.98 | - | - | 17.63 | 17.08 |
| 4 | 22.22 | - | - | 17.20 | 21.98 | - | 33.25 | 17.36 | 22 | 16.74 | - | - | 16.85 | 17.15 | - | - | 16.80 |
| 5 | 25.53 | - | - | 16.78 | 27.44 | - | 33.21 | 17.10 | 23 | - | - | 14.71 | 17.15 | - | - | 15.92 | 17.66 |
| 6 | - | - | 38.06 | 17.27 | - | - | 33.32 | 16.78 | 24 | - | - | 15.56 | 16.86 | - | - | 16.50 | 16.98 |
| 7 | - | - | 16.11 | 16.36 | - | - | 16.17 | 16.21 | 25 | - | - | 16.55 | 17.50 | - | - | 16.12 | 17.14 |
| 8 | - | - | 16.55 | 16.80 | - | - | 16.37 | 16.69 | 26 | - | - | 17.53 | 17.04 | - | - | 17.50 | 16.72 |
| 9 | - | - | 16.39 | 17.34 | - | - | 18.14 | 17.13 | 27 | 20.29 | - | 32.28 | 17.01 | 21.52 | - | 33.72 | 17.10 |
| 10 | 19.58 | - | - | 16.74 | 19.81 | - | 33.27 | 16.86 | 28 | - | - | 16.59 | 17.22 | - | - | 18.08 | 17.39 |
| 11 | 19.29 | - | 35.35 | 17.61 | 19.30 | - | 33.87 | 17.13 | 29 | 16.69 | - | 32.59 | 16.72 | 17.00 | - | 34.25 | 16.95 |
| 12 | 16.68 | - | 34.47 | 17.07 | 16.38 | - | 33.58 | 17.38 | 30 | 20.92 | - | 32.81 | 18.52 | 18.95 | - | 31.37 | 16.55 |
| 13 | - | - | 17.09 | 17.33 | - | - | 15.05 | 16.74 | 31 | - | - | 15.01 | 17.18 | - | - | 14.43 | 16.15 |
| 14 | 16.83 | - | 33.31 | 17.17 | 18.19 | - | 34.27 | 17.10 | 32 | - | - | 16.97 | 17.74 | - | - | 15.68 | 16.63 |
| 15 | 19.13 | - | - | 16.93 | 18.94 | - | - | 17.48 | 33 | - | - | 15.93 | 16.91 | - | - | 14.67 | 15.69 |
| 16 | - | - | 16.29 | 17.06 | - | - | 17.17 | 16.89 | 34 | 17.27 | - | 36.24 | 17.51 | 17.58 | - | - | 16.92 |
| 17 | 19.30 | - | - | 16.84 | 19.98 | - | - | 16.93 | 35 | 17.03 | - | 30.97 | 16.70 | 19.53 | - | - | 17.30 |
| 18 | - | - | 16.14 | 17.34 | - | - | 16.14 | 16.76 | 36 | 19.83 | - | - | 18.22 | 17.75 | - | - | 17.21 |

- Baseline Threshold :
Inf A (150), PIV-4 (150), Inf B (150), PCRC (15)

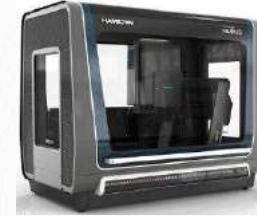
- No. 11/27 : 100µl used

Detection : DiaPlexQ RV16 Detection kit (Solgent , Korea)

QIAamp MinElute Virus Spin kit
vs Nexttractor

| No. | QIAamp MinElute Virus Spin Kit | Nexttractor |
|-----|--------------------------------|-------------------------|
| 1 | Boca(30.8) | Boca(28.8) |
| 2 | Adeno(23.7) | Adeno(22.0) |
| 3 | PIV1(33.2) | PIV1(29.8) |
| 4 | Adeno(31.0), Boca(33.0) | Adeno(27.5), Boca(30.8) |
| 5 | Boca(24.3) | Boca(25.0) |
| 6 | PIV1(33.8) | PIV1(33.9) |
| 7 | PIV1(29.3) | PIV1(26.7) |
| 8 | - | Adeno(34.6) |
| 9 | Boca(21.9) | Boca(20.6) |
| 10 | Adeno(37.3) | Adeno(34.4) |

Nexttractor vs Magcore vs NIMBUS



| ID | Genolution | Magcore | Expected result (NIMBUS Milan and Genova) |
|----|-----------------|-----------------|---|
| 1 | RSV A,SP,HI | RSV A,SP,HI | RSV A (Bacteria not tested) |
| 2 | MPV,HRV,HI | MPV,HRV,HI | MPV, HRV (Bacteria not tested) |
| 3 | MPV,HRV,SP | MPV,HRV,SP | MPV, HRV (Bacteria not tested) |
| 4 | RSV A,AdV,SP,HI | RSV A,AdV,SP,HI | RSV A,AdV (Bacteria not tested) |
| 5 | HI | HRV,HI | - (Bacteria not tested) |
| 6 | RSV B,HI | RSV B,HI | RSV B (Bacteria not tested) |
| 7 | RSV B,HRV | RSV B,HRV | RSV B,HRV |
| 8 | 229E | 229E | 229E |

2016-02-10 A company (Italy)

Extraction : Nexttractor (Genolution) vs. 202 Magcore Viral Nucleic Acid Kit (RBC Bio Science) vs NIMBUS (Seegene)

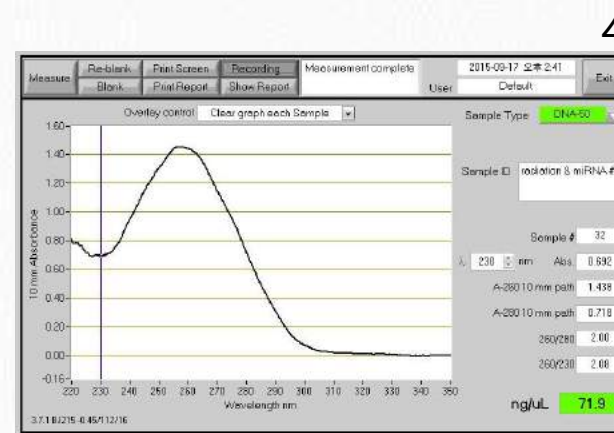
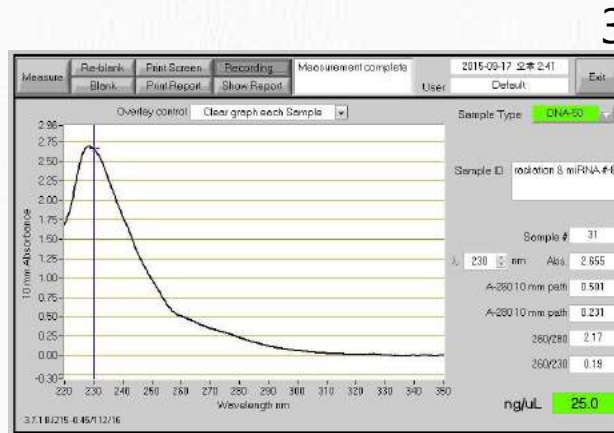
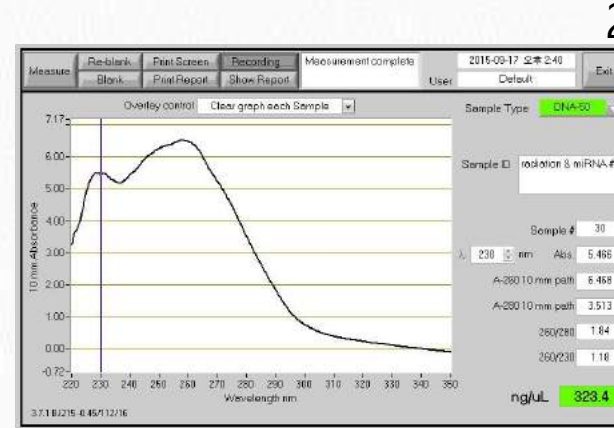
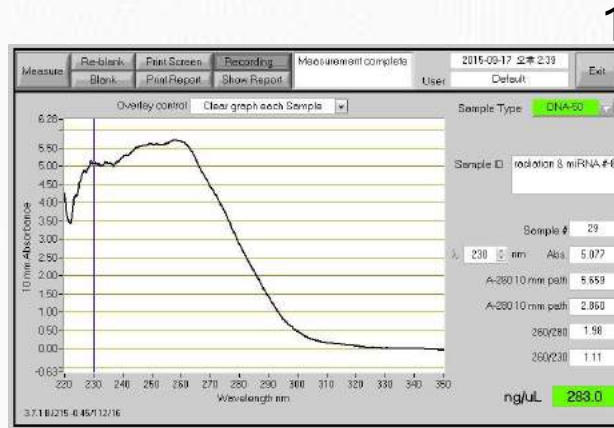
Sample : Nassal swab 200 ul

Detection : Allplex Respiratory Full Panel (Seegene, Korea)

- **FFPE DNA**

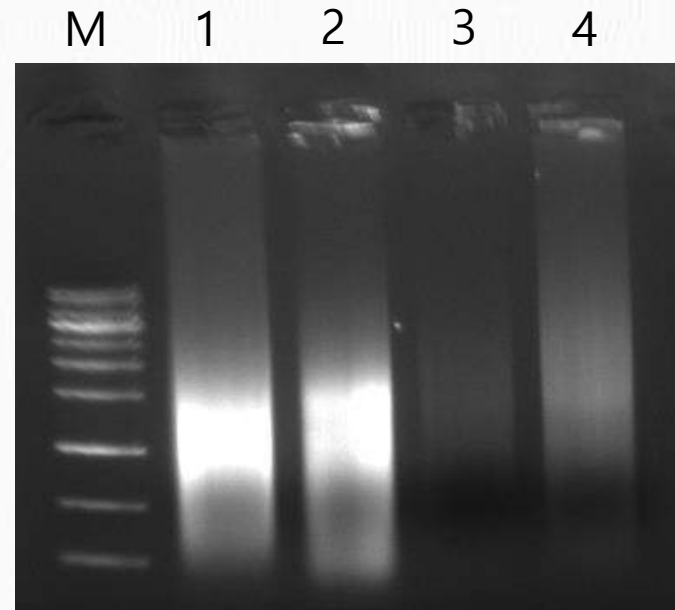
QIAamp DNA FFPE Tissue kit vs Nextractor

| Number | Extraction – Sample |
|--------|---------------------|
| 1 | Qiagen – Liver |
| 2 | Nextractor – Liver |
| 3 | Qiagen – Lung |
| 4 | Nextractor - Lung |



Nanodrop result

| | Yield (ng/ul) | 260/280 ratio |
|---|---------------|---------------|
| 1 | 283.0 | 1.98 |
| 2 | 323.4 | 1.84 |
| 3 | 25.0 | 2.17 |
| 4 | 71.9 | 2.00 |



| Number | Extraction – Sample |
|--------|---------------------|
| 1 | Qiagen – Liver |
| 2 | Nextractor – Liver |
| 3 | Qiagen – Lung |
| 4 | Nextractor - Lung |

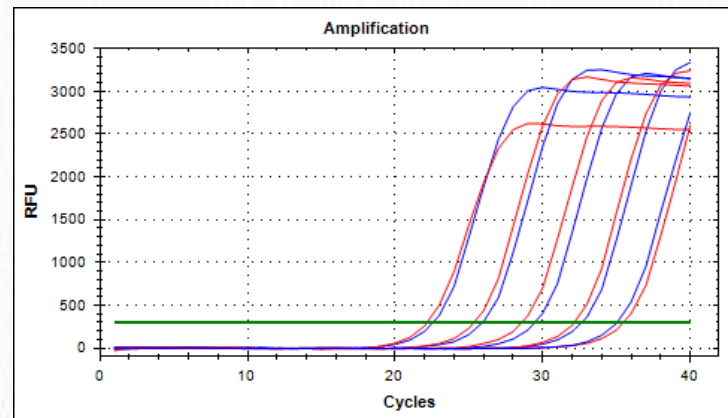
- Condition of electrophoresis
 - 0.8% agarose gel
 - Ladder : 1Kb
 - Loading sample : 10 μ l
 - Electrophoresis at 150V for 15min

Lung DNA dilution test
(primer 1)

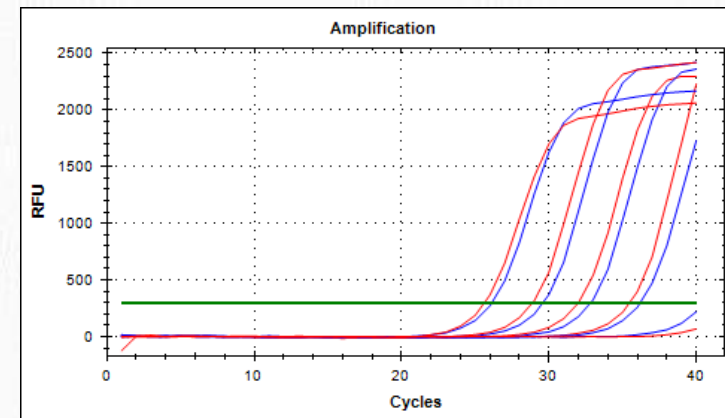
| | Qiagen | Genolution |
|-------------------|--------|------------|
| 1/10 | 22.55 | 22.16 |
| 1/10 ² | 25.93 | 25.33 |
| 1/10 ³ | 29.45 | 28.57 |
| 1/10 ⁴ | 32.63 | 32.13 |
| 1/10 ⁵ | 35.05 | 35.46 |

Lung DNA dilution test
(primer 2)

| | Qiagen | Genolution |
|-------------------|--------|------------|
| 1/10 | 26.13 | 25.62 |
| 1/10 ² | 29.59 | 28.89 |
| 1/10 ³ | 32.83 | 32.01 |
| 1/10 ⁴ | 36.19 | 35.47 |
| 1/10 ⁵ | - | - |



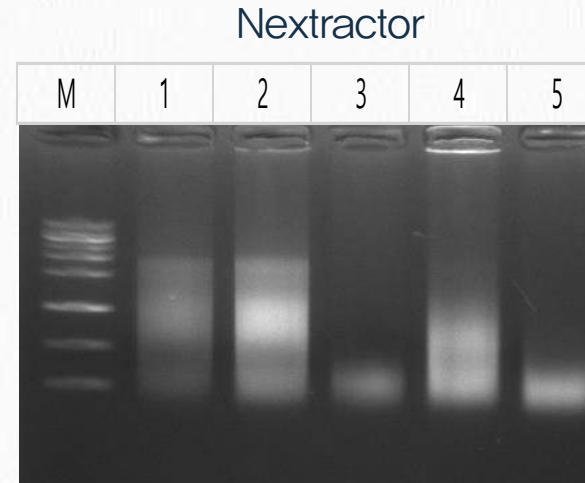
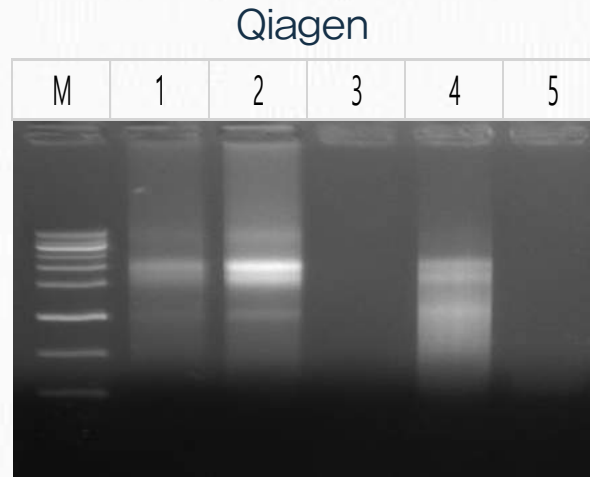
■ Qiagen ■ Genolution



■ Qiagen ■ Genolution

FFPE DNA

QIAamp DNA FFPE Tissue kit vs Nextractor

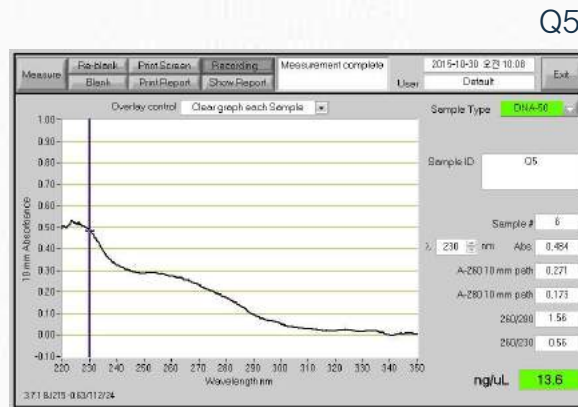
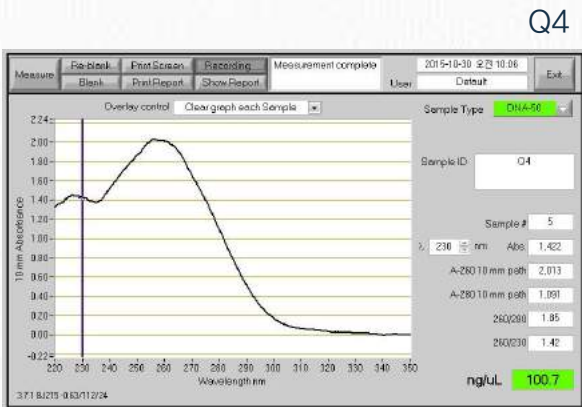
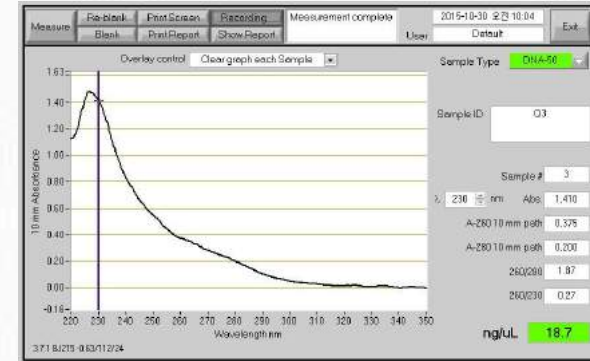
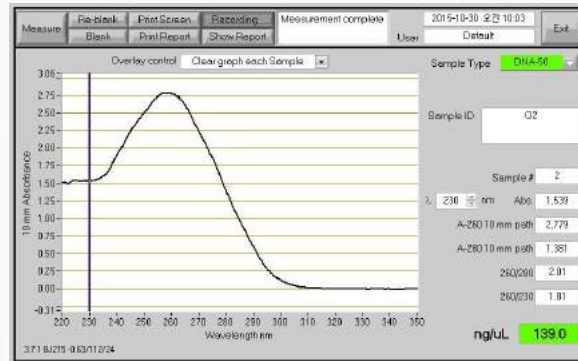
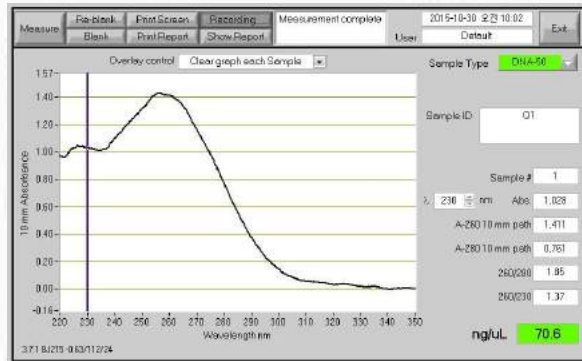


| | QIAGEN | | Nextractor | |
|---|--------|---------|------------|---------|
| | Yield | 260/280 | Yield | 260/280 |
| 1 | 70.6 | 1.85 | 61.3 | 1.76 |
| 2 | 139.0 | 2.01 | 129.1 | 1.85 |
| 3 | 18.7 | 1.87 | 68.5 | 1.59 |
| 4 | 100.7 | 1.85 | 142.2 | 1.74 |
| 5 | 13.6 | 1.56 | 78.6 | 1.61 |

| | QIAGEN | Nextractor |
|-----------------------------|--------|------------|
| 1 | 27.99 | 26.65 |
| 2 | 27.42 | 26.42 |
| 3 | 37.51 | 35.18 |
| 4 | 25.47 | 27.18 |
| 5 | N/A | N/A |
| Human actin – real-time PCR | | |

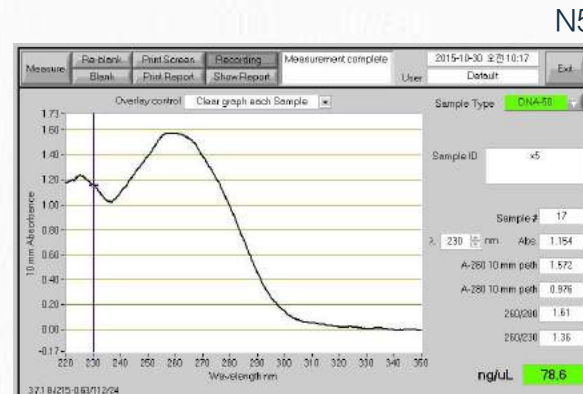
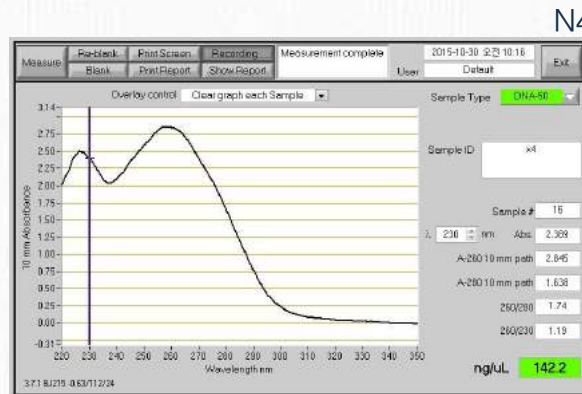
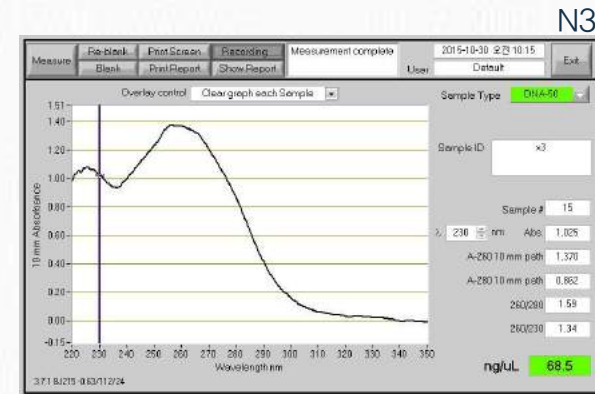
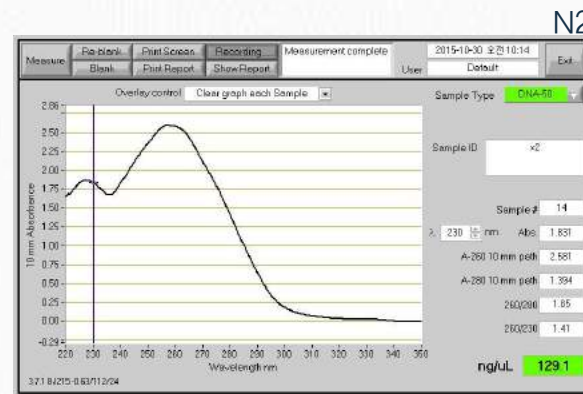
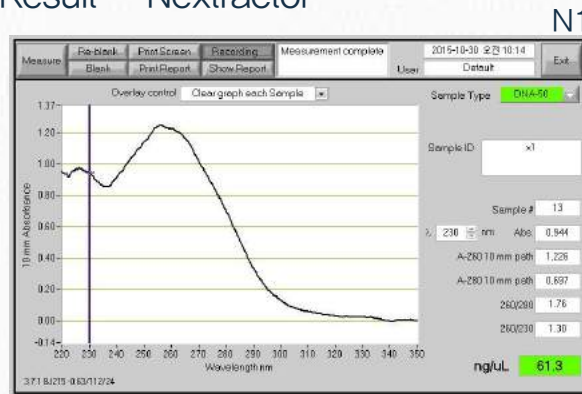
QIAamp DNA FFPE Tissue kit vs Nextractor

Result – Qiagen



QIAamp DNA FFPE Tissue kit vs Nextractor

Result – Nextractor

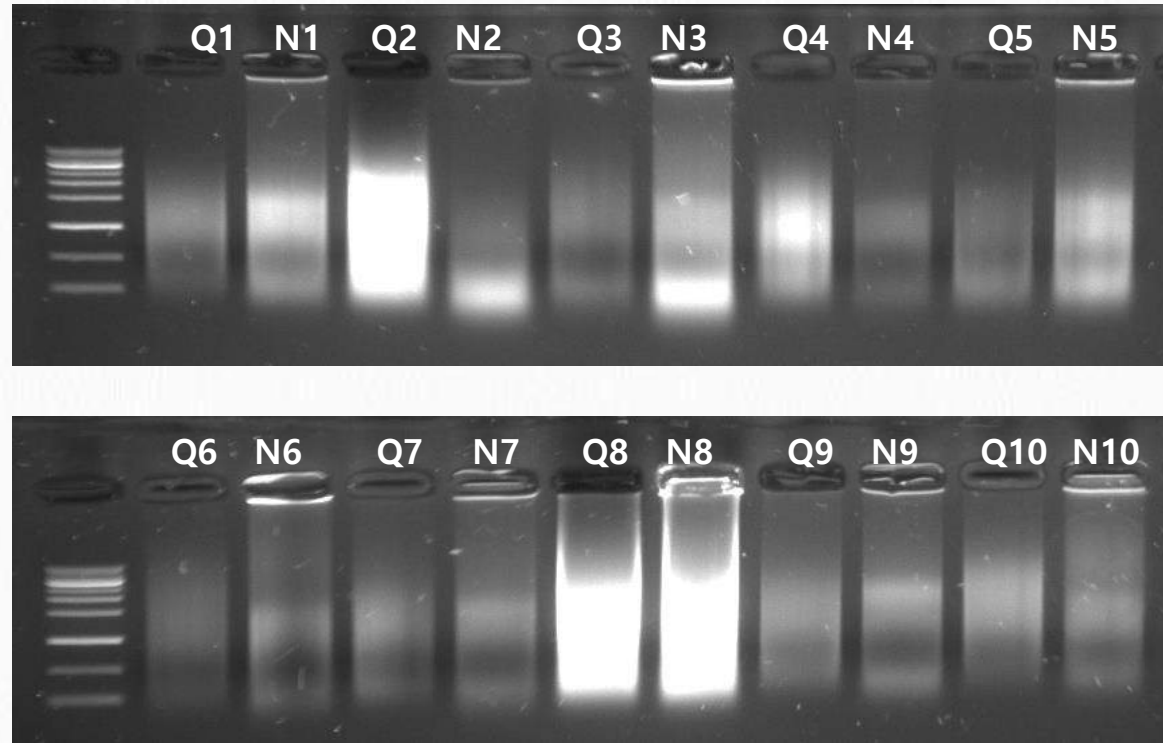


QIAamp DNA FFPE Tissue kit vs Nextractor

| Sample | QIAamp DNA FFPE Tissue Kit | | | Nextractor | | |
|--------|----------------------------|------------------|------|---------------|------------------|------|
| | Conc. (ng/ul) | Ratio (A260/280) | Ct | Conc. (ng/ul) | Ratio (A260/280) | Ct |
| 1 | 449.4 | 1.99 | 22.9 | 224.4 | 1.82 | 24.8 |
| 2 | 127.9 | 2.02 | 25.3 | 85.8 | 1.75 | 26.8 |
| 3 | 444.7 | 2.01 | 23.1 | 526,4 | 1.95 | 23.9 |
| 4 | 104.4 | 1.99 | 24.9 | 104 | 1.88 | 25.3 |
| 5 | 52.2 | 2.03 | 26.4 | 10.6 | 1.72 | 30.4 |
| 6 | 394.2 | 2.02 | 23.9 | 729.2 | 1.94 | 30.1 |
| 7 | 421.8 | 2.02 | 23.7 | 448.2 | 1.91 | 24.4 |
| 8 | 17.3 | 2.12 | 26.4 | 14 | 1.77 | 28.4 |

QIAamp DNA FFPE Tissue kit vs Nextractor

| Sample | QIAamp DNA FFPE Tissue Kit | | | | Nextractor | | | |
|--------|----------------------------|------------------|----------------|-------|---------------|------------------|----------------|-------|
| | Conc. (ng/ul) | Ratio (A260/280) | Human Actin Ct | | Conc. (ng/ul) | Ratio (A260/280) | Human Actin Ct | |
| 1 | 80.7 | 2.13 | 23.30 | 22.88 | 177.8 | 1.99 | 23.48 | 23.21 |
| 2 | 299.4 | 2.03 | 21.46 | 21.32 | 183.5 | 1.87 | 24.96 | 25.03 |
| 3 | 70.9 | 2.13 | 25.15 | 25.19 | 236.0 | 1.92 | 23.67 | 23.12 |
| 4 | 115.0 | 2.11 | 25.26 | 25.69 | 88.6 | 2.06 | 25.56 | 25.65 |
| 5 | 37.8 | 2.21 | 23.23 | 23.39 | 206.9 | 2.04 | 24.01 | 23.92 |
| 6 | 62.2 | 2.10 | 22.79 | 23.09 | 179.7 | 2.01 | 24.34 | 24.40 |
| 7 | 78.3 | 2.10 | 23.16 | 23.01 | 125.6 | 1.90 | 25.43 | 24.46 |
| 8 | 506.5 | 1.99 | 20.20 | 20.17 | 649.9 | 1.94 | 22.99 | 22.02 |
| 9 | 75.0 | 2.07 | 22.91 | 22.40 | 142.6 | 1.84 | 25.19 | 24.76 |
| 10 | 77.5 | 2.10 | 22.51 | 22.51 | 128.9 | 1.88 | 24.03 | 24.02 |



- Condition of electrophoresis
 - 0.8% agarose gel
 - Ladder : 1Kb
 - Loading sample : 10 μ l
 - Electrophoresis at 150V for 15min

2015-11-27 B Clinical Center

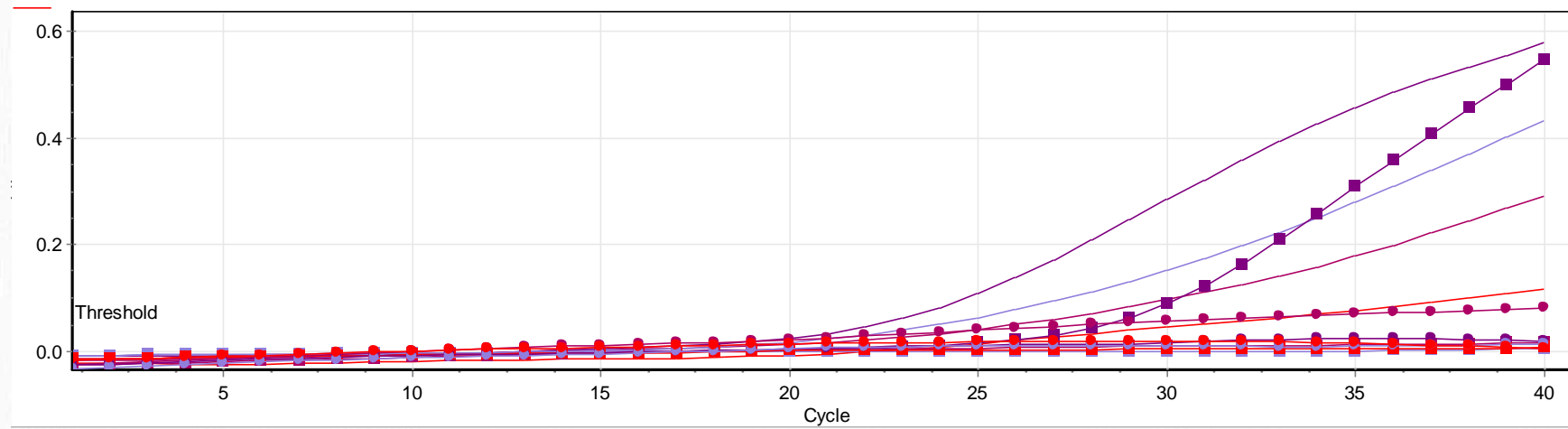
$\Delta Ct = \text{Mutation (FAM/HEX) Ct} - \text{Internal Control (ROX) Ct}$

| Mutation assay | | $\Delta Ct < \text{cutoffs}$ |
|-------------------------------|-------------------------------------|---|
| T790M & G719C | T790M (FAM) | 2 |
| | G719C (HEX) | 6 |
| L861Q & G719A/S | L861Q (FAM) | 5 |
| | G719A/S (HEX) | 9 |
| S786I & exon 20ins | S786I & exon 20ins (FAM) | 4 |
| L858R & exon19 del | L858R (FAM) | 2 |
| | exon19 del (HEX) | 8 |

2016-01-05 F company (China)

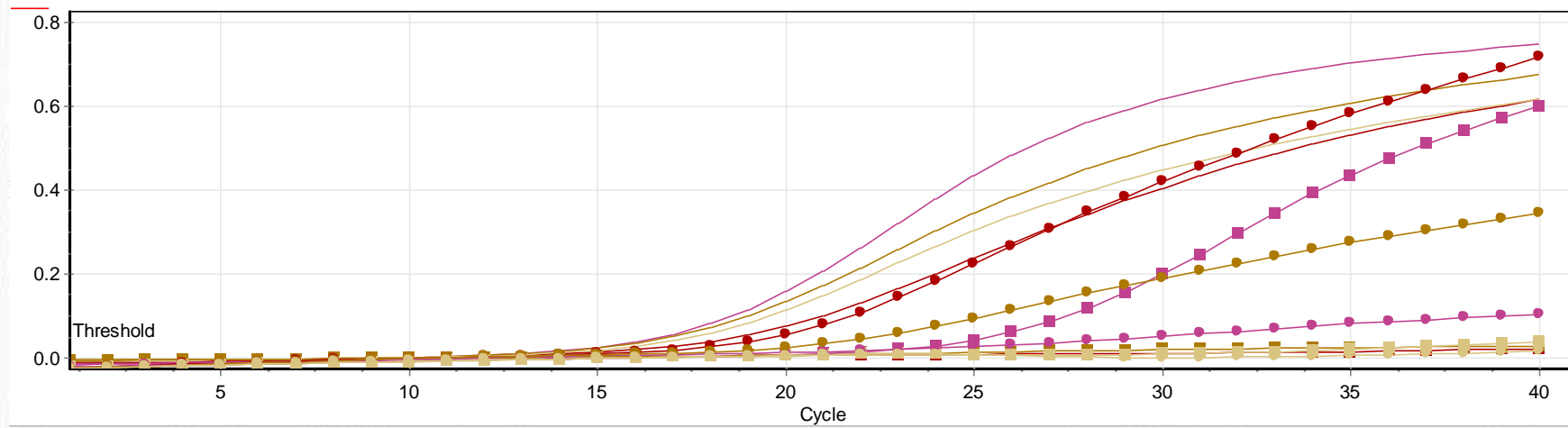
Extraction : ReliaPrep FFPE gDNA Miniprep System (Promega) vs Nextractor (Genolution)
 Detection : EGFR Mutation Test Kit (Fosun, China)

Sample 4



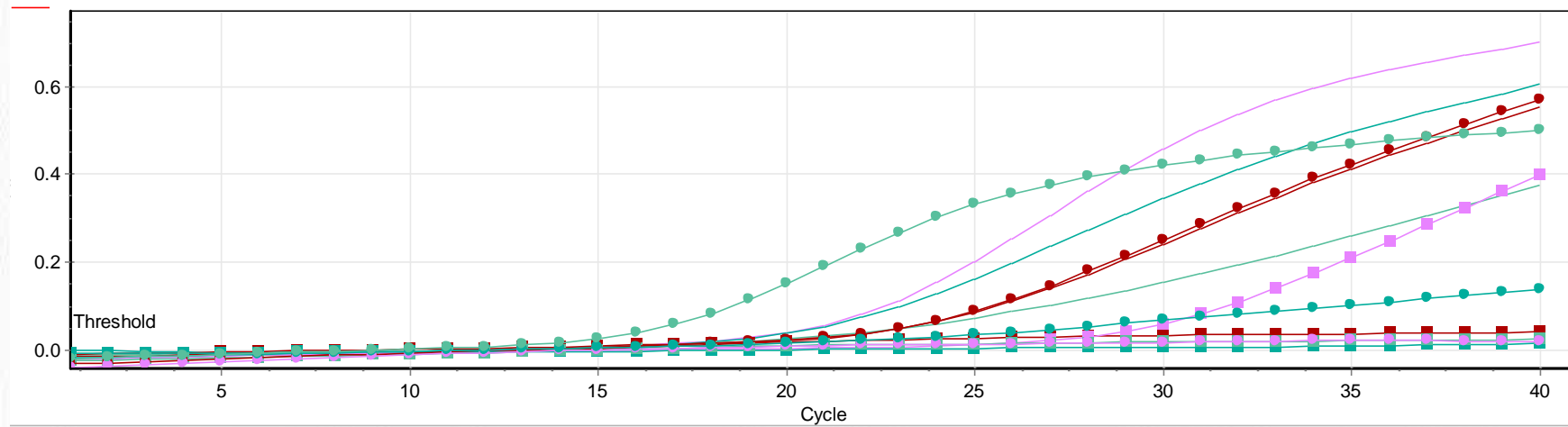
| Name | FAM Ct | HEX Ct | ROX Ct | ΔCt | Nextractor results | Previous result |
|------|-------------|-------------|--------|-------------|--------------------|-----------------|
| 4 | No Reaction | No Reaction | 30.23 | - | Negative | Negative |
| 4 | No Reaction | 30.40 | 24.72 | 5.68 <9 | Positive | Negative |
| 4 | No Reaction | No Reaction | 27.31 | - | Negative | Negative |
| 4 | No Reaction | No Reaction | 37.91 | - | Negative | Negative |

Sample 5



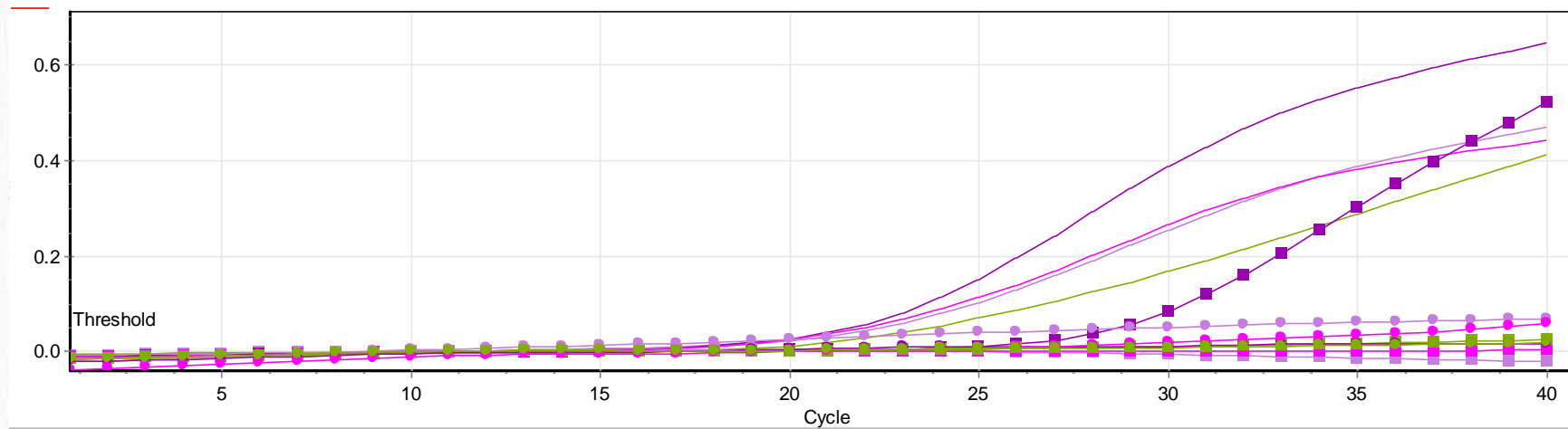
| Name | FAM Ct | HEX Ct | ROX Ct | Δ Ct | Nextactor results | Previous result |
|------|-------------|-------------|--------|-------------|-------------------|-----------------|
| 5 | 21.79 | No Reaction | 21.01 | 0.78 < 2 | T790M | T790M |
| 5 | 38.87 | 27.52 | 18.64 | 8.88 < 9 | G719S/A | Negative |
| 5 | 25.28 | No Reaction | 19.00 | - | Negative | Negative |
| 5 | No Reaction | No Reaction | 19.59 | - | Negative | Negative |

Sample 11



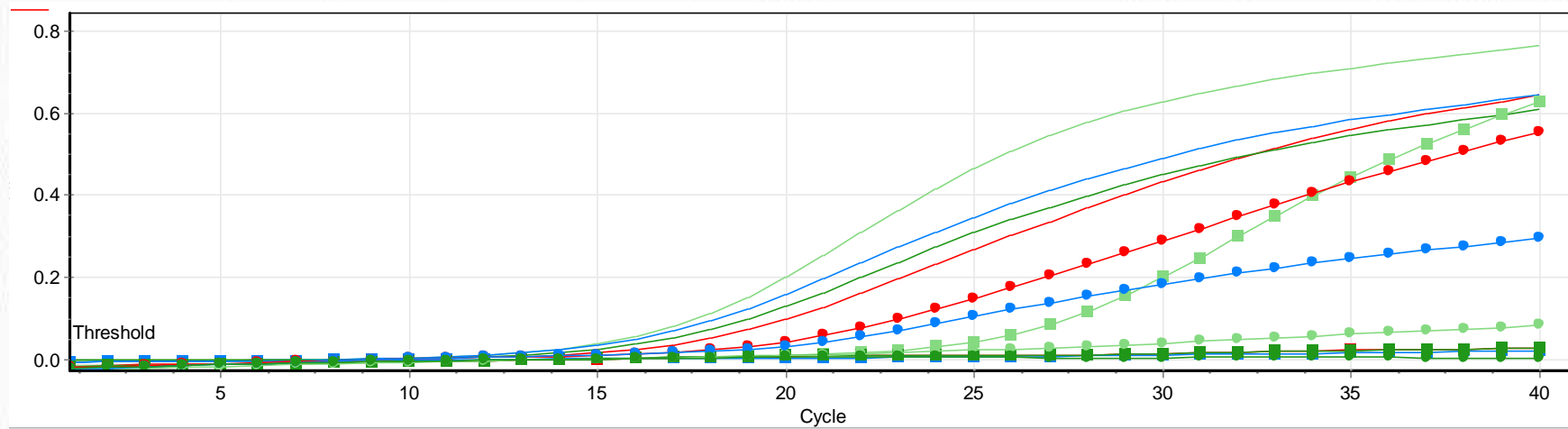
| Name | FAM Ct | HEX Ct | ROX Ct | ΔCt | Nextractor results | Previous result |
|------|-------------|-------------|--------|-------------|--------------------|-----------------|
| 11 | 25.50 | No Reaction | 25.59 | -0.09 < 2 | T790M | Negative |
| 11 | No Reaction | 31.70 | 22.68 | 9 < 9.02 | Negative | Negative |
| 11 | 34.51 | No Reaction | 23.05 | - | Negative | Negative |
| 11 | 18.61 | No Reaction | 26.82 | -8.21 < 2 | L858R | L858R |

Sample 24



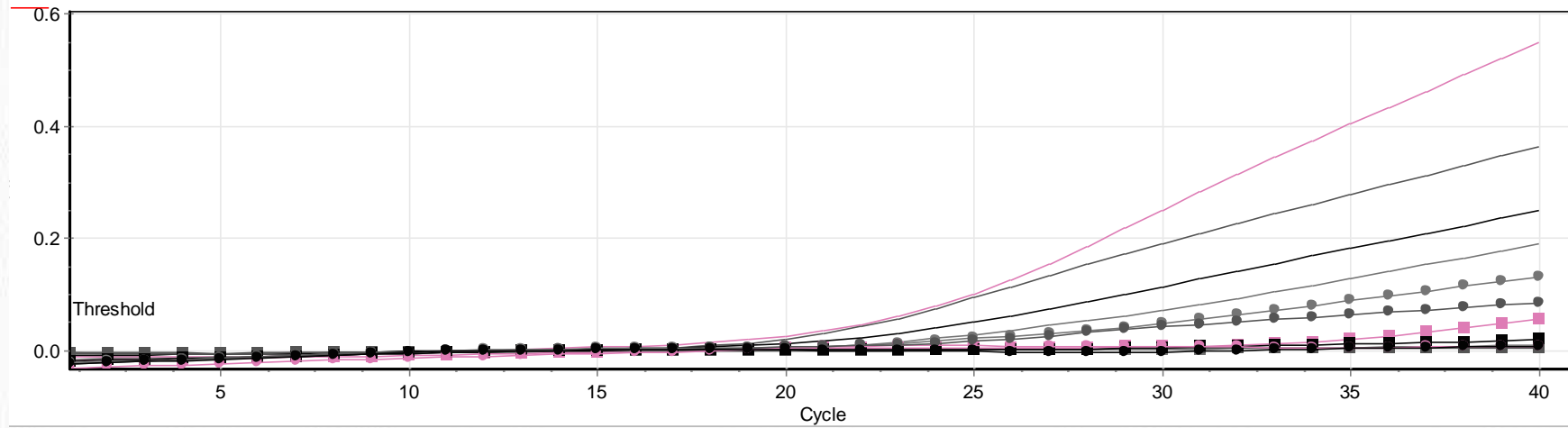
| Name | FAM Ct | HEX Ct | ROX Ct | ΔCt | Nextractor results | Previous result |
|------|-------------|-------------|--------|-------------|--------------------|-----------------|
| 24 | No Reaction | No Reaction | 24.92 | - | Negative | Negative |
| 24 | No Reaction | 30.56 | 23.70 | 6.86 < 9 | G719S/A | G719S/A |
| 24 | No Reaction | No Reaction | 24.55 | - | Negative | Negative |
| 24 | No Reaction | No Reaction | 26.73 | - | Negative | Negative |

Sample 32



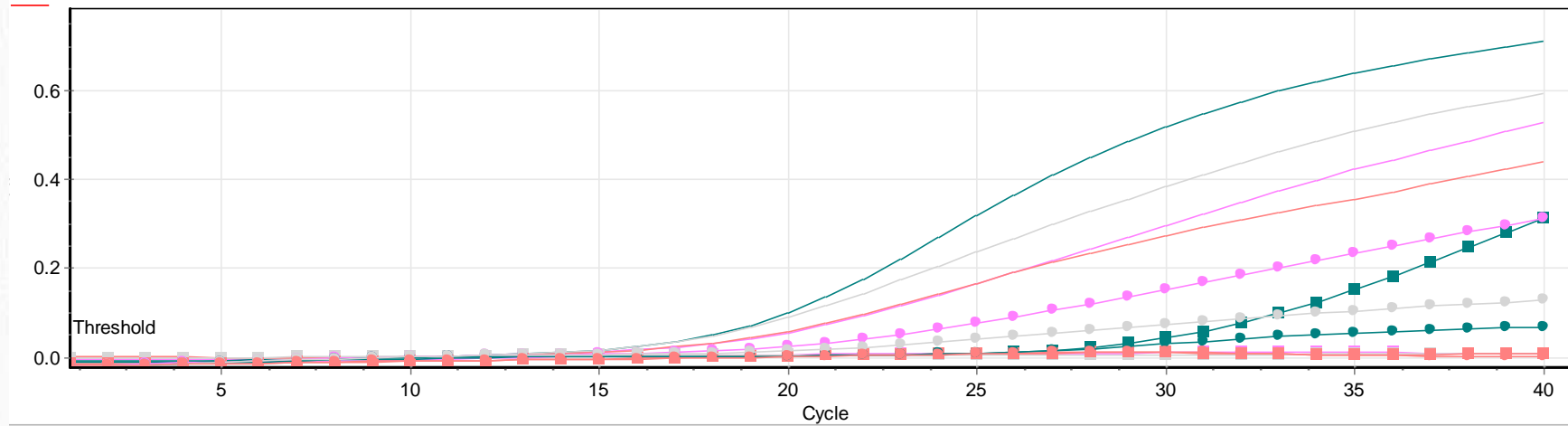
| Name | FAM Ct | HEX Ct | ROX Ct | Δ Ct | Nextractor results | Previous result |
|------|-------------|-------------|--------|-------------|--------------------|-----------------|
| 32 | 23.09 | No Reaction | 20.14 | 2 < 2.95 | Negative | Negative |
| 32 | No Reaction | 27.59 | 17.74 | 9 < 9.85 | Negative | Negative |
| 32 | 24.78 | No Reaction | 18.26 | 4 < 6.52 | Negative | Negative |
| 32 | No Reaction | No Reaction | 19.13 | - | Negative | Negative |

Sample 37



| Name | FAM Ct | HEX Ct | ROX Ct | Δ Ct | Nextractor results | Previous result |
|------|-------------|-------------|--------|-------------|--------------------|-----------------|
| 37 | 36.09 | No Reaction | 32.52 | 2 < 3.57 | Negative | Negative |
| 37 | No Reaction | No Reaction | 24.96 | - | Negative | Negative |
| 37 | No Reaction | No Reaction | 25.27 | - | Negative | Negative |
| 37 | No Reaction | No Reaction | 28.97 | - | Negative | Negative |

Sample 39



| Name | FAM Ct | HEX Ct | ROX Ct | ΔCt | Nextractor results | Previous result |
|------|-------------|-------------|--------|-------------|--------------------|-----------------|
| 39 | 26.69 | No Reaction | 22.35 | 2 < 4.34 | Negative | Negative |
| 39 | No Reaction | 33.11 | 20.10 | - | Negative | Negative |
| 39 | 34.28 | No Reaction | 20.51 | - | Negative | Negative |
| 39 | No Reaction | No Reaction | 22.19 | - | Negative | Negative |

QIAamp DNA FFPE Tissue kit vs Nextractor

| | Specimen | QIAGEN | | Nextractor | |
|---|----------------------|--------|-------|------------|-------|
| 1 | Lung cancer(+) | 23.51 | 23.40 | 22.90 | 22.90 |
| 2 | Lung cancer(+) | 23.51 | 23.40 | 24.76 | 24.93 |
| 3 | Lung cancer(-) | 26.47 | 26.60 | 22.38 | 22.29 |
| 4 | Colorectal cancer(+) | 22.48 | 22.32 | 24.03 | 23.59 |
| 5 | Colorectal cancer(+) | 23.05 | 23.53 | 23.38 | 23.65 |
| 6 | Colorectal cancer(-) | 24.36 | 24.49 | 19.20 | 19.50 |

Chonbuk National University Hospital patient samples

QIAamp DNA FFPE Tissue kit vs Nextractor

| No. | Specimen | QIAamp DNA FFPE Tissue Kit | | | Nextractor | | |
|-----|-------------|----------------------------|------------------|---------------|---------------|------------------|---------------|
| | | Conc. (ng/ul) | Ratio (A260/280) | Human gene Ct | Conc. (ng/ul) | Ratio (A260/280) | Human gene Ct |
| 1 | Lung+ | 13.9 | 2.00 | 27.2 | 39.6 | 2.01 | 25.9 |
| 2 | Stomach+ | 16.6 | 1.91 | 26.6 | 20.7 | 2.00 | 28.2 |
| 3 | rectal+ | 25.9 | 1.93 | 25.3 | 25.0 | 2.04 | 26.9 |
| 4 | Colorectal+ | 14.4 | 1.85 | 27.1 | 20.4 | 1.72 | 27.2 |
| 5 | Lung- | 11.8 | 1.76 | 27.8 | 17.4 | 1.88 | 28.3 |
| 6 | Stomach- | 23.1 | 1.94 | 25.9 | 23.6 | 1.92 | 27.3 |
| 7 | rectal- | 26.2 | 1.86 | 25.5 | 23.6 | 1.81 | 26.4 |
| 8 | Colorectal- | 11.9 | 1.88 | 27.5 | 30.2 | 1.92 | 26.4 |

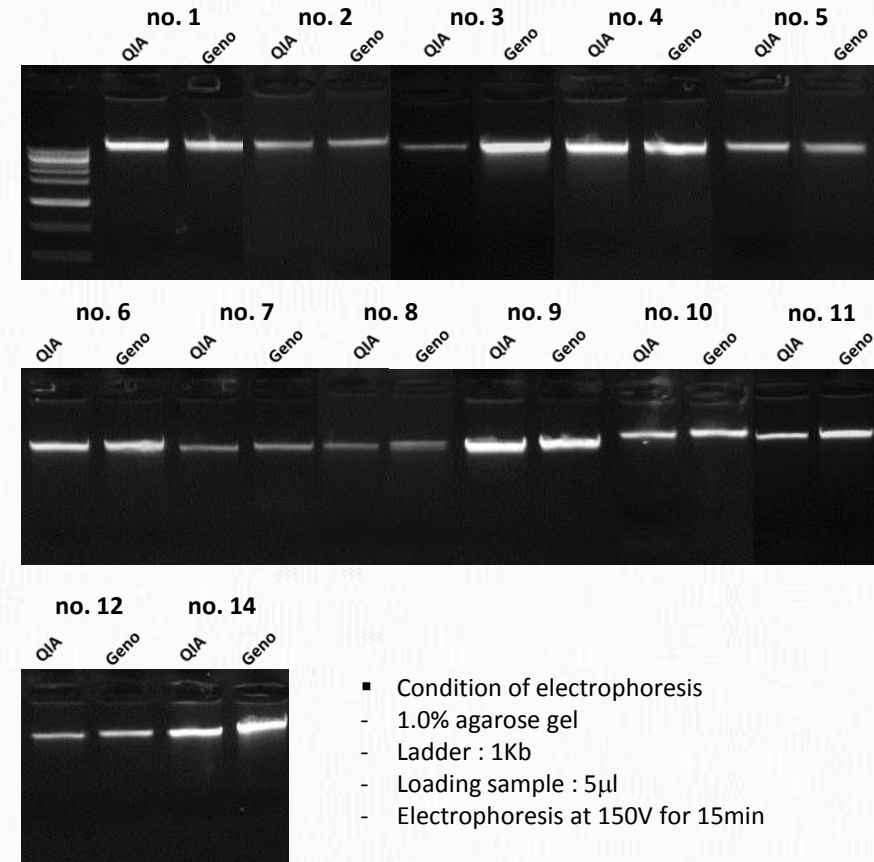
- **Whole Blood DNA**

Whole Blood DNA

QIAamp Blood Mini kit vs Nextractor

| No. | QIAamp Blood Mini kit | | | Nextractor | | | | |
|-----|-----------------------|--------|---------|------------|--------|---------|-------|-------|
| | con. | purity | H-actin | con. | purity | H-actin | | |
| 1 | 36.9 | 1.80 | 20.21 | 20.21 | 80.3 | 1.82 | 20.52 | 20.42 |
| | | | 20.21 | | | | 20.32 | |
| 2 | 17.5 | 1.61 | 21.11 | 20.98 | 84.4 | 1.89 | 20.53 | 20.63 |
| | | | 20.85 | | | | 20.73 | |
| 3 | 21.2 | 1.93 | 20.89 | 20.90 | 96.0 | 1.89 | 19.05 | 19.00 |
| | | | 20.91 | | | | 18.94 | |
| 4 | 40.2 | 2.00 | 19.37 | 19.49 | 76.0 | 2.08 | 19.92 | 19.89 |
| | | | 19.61 | | | | 19.86 | |
| 5 | 38.2 | 1.74 | 19.97 | 19.90 | 94.2 | 1.60 | 20.13 | 20.11 |
| | | | 19.83 | | | | 20.08 | |
| 6 | 26.5 | 1.66 | 20.58 | 20.62 | 65.4 | 1.95 | 20.49 | 20.41 |
| | | | 20.65 | | | | 20.33 | |
| 7 | 24.5 | 1.55 | 21.56 | 21.54 | 62.5 | 2.20 | 21.58 | 21.56 |
| | | | 21.51 | | | | 21.54 | |
| 8 | 22.9 | 1.49 | 20.62 | 20.76 | 101 | 1.61 | 20.63 | 20.61 |
| | | | 20.89 | | | | 20.59 | |
| 9 | 45.8 | 2.00 | 19.69 | 19.58 | 83.1 | 1.89 | 20.08 | 20.03 |
| | | | 19.47 | | | | 19.98 | |
| 10 | 33.9 | 2.18 | 20.67 | 20.62 | 70.7 | 1.98 | 20.36 | 20.42 |
| | | | 20.56 | | | | 20.48 | |
| 11 | 26.0 | 1.76 | 20.14 | 20.14 | 100 | 1.87 | 19.66 | 19.65 |
| | | | 21.22 | | | | 19.63 | |
| 12 | 15.8 | 1.65 | 21.55 | 21.52 | 63.0 | 1.94 | 21.20 | 21.27 |
| | | | 21.49 | | | | 21.34 | |
| 13 | 21.8 | 1.67 | 20.48 | 20.38 | 72.2 | 1.96 | 20.67 | 20.80 |
| | | | 20.27 | | | | 20.93 | |
| 14 | 31.5 | 1.88 | 20.16 | 20.18 | 125 | 1.79 | 19.69 | 19.71 |
| | | | 20.20 | | | | 19.72 | |

Baseline Threshold : H-actin (50)



- Condition of electrophoresis
- 1.0% agarose gel
- Ladder : 1Kb
- Loading sample : 5μl
- Electrophoresis at 150V for 15min

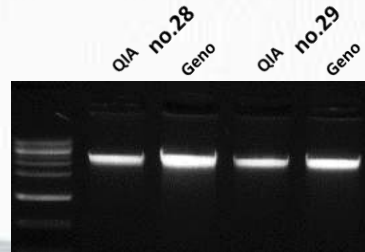
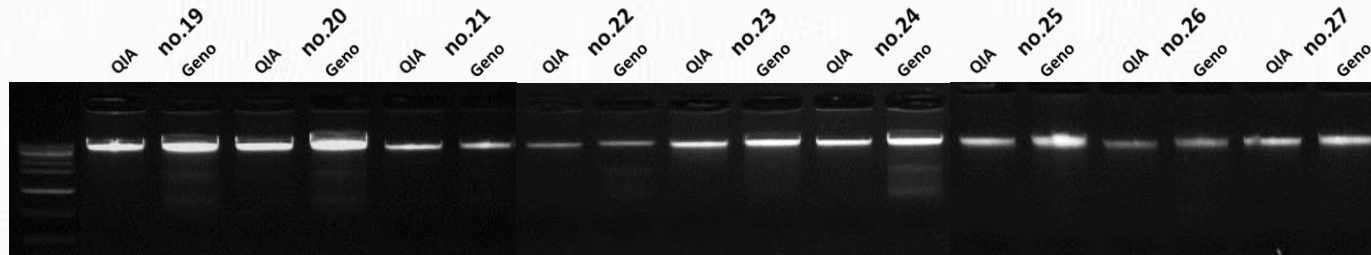
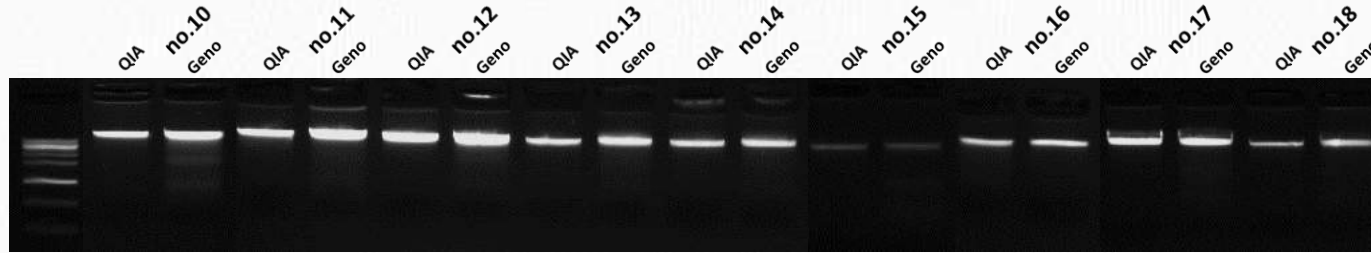
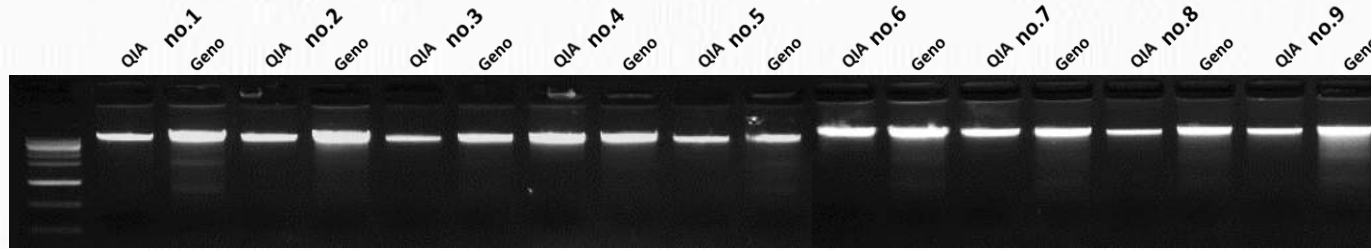
Detection : Real-time PCR (Human actin) & Gel electrophoresis

Whole Blood DNA

QIAamp Blood Mini kit vs Nextractor

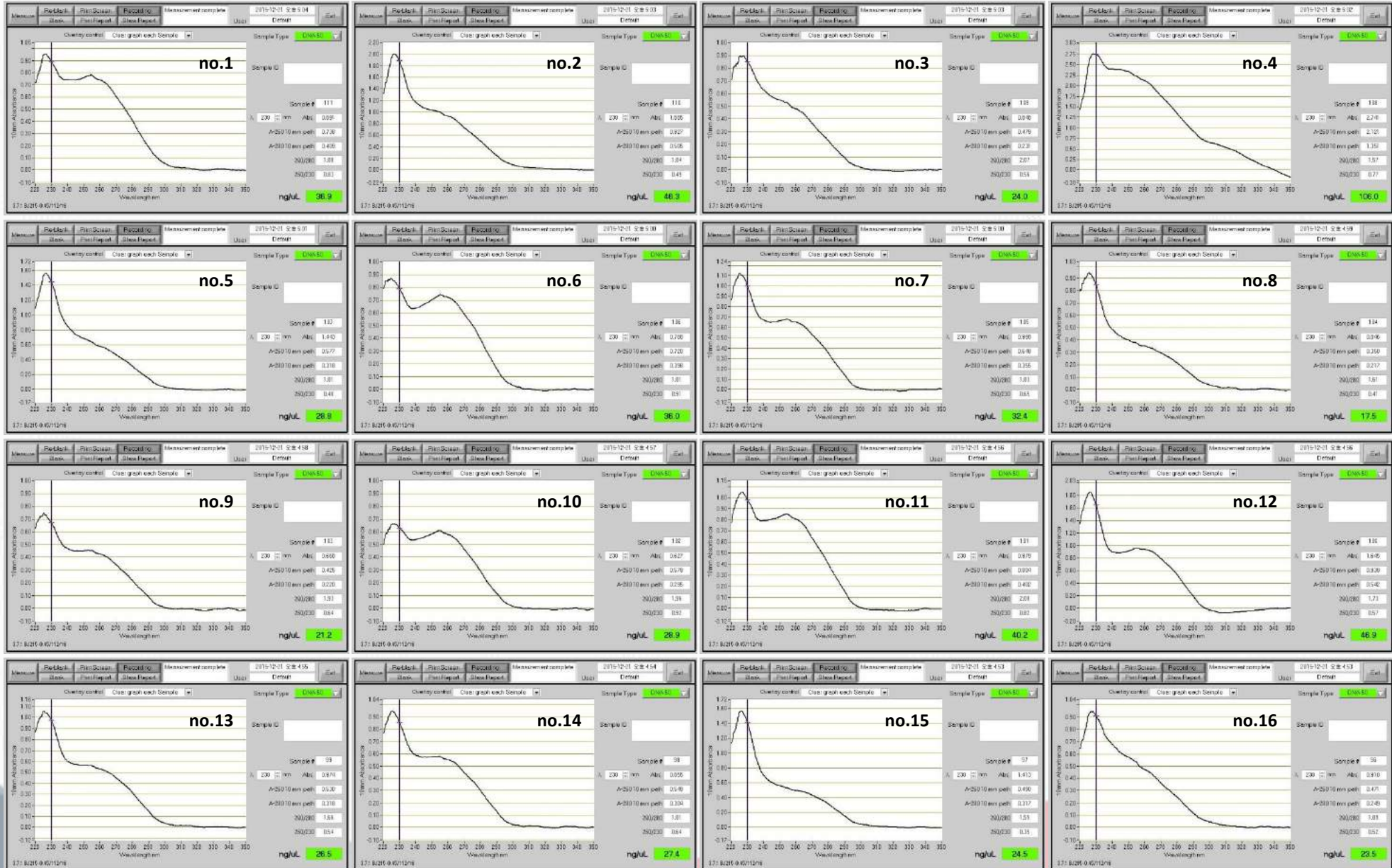
| No. | QIAamp Blood Mini kit | | | Nextractor | | | No. | QIAamp Blood Mini kit | | | Nextractor | | | | | | |
|-----|-----------------------|--------|----------------|------------|--------|---------|----------------|-----------------------|-----------------------------------|---------|------------|----------------|---------|------|------|----------------|-------|
| | con. | purity | H-actin | con. | purity | H-actin | | con. | purity | H-actin | con. | purity | H-actin | | | | |
| 1 | 36.9 | 1.80 | 20.29 19.96 | 20.13 | 146 | 1.73 | 19.36 20.71 | 20.04 | 16 | 23.5 | 1.89 | 20.55 20.48 | 20.52 | 50.3 | 1.97 | 20.24 N/A | 20.24 |
| 2 | 46.3 | 1.84 | 19.15 19.22 | 19.19 | 135 | 1.76 | 18.99 19.04 | 19.02 | 17 | 45.8 | 2.00 | 20.03 19.63 | 19.83 | 102 | 1.78 | 19.35 19.46 | 19.41 |
| 3 | 24.0 | 2.07 | 20.15 20.06 | 20.11 | 89.7 | 1.82 | 19.62 19.54 | 19.58 | 18 | 27.6 | 1.87 | 20.71 20.32 | 20.52 | 103 | 1.83 | 20.03 19.88 | 19.96 |
| 4 | 106 | 1.57 | 19.00 19.09 | 19.05 | 122 | 1.75 | 19.38 19.39 | 19.39 | 19 | 57.4 | 1.91 | 19.38 19.41 | 19.40 | 131 | 1.92 | 18.69 18.81 | 18.75 |
| 5 | 28.8 | 1.81 | 20.60 20.44 | 20.52 | 74.6 | 1.95 | 20.17 20.01 | 20.09 | 20 | 56.7 | 2.07 | 19.37 19.24 | 19.31 | 138 | 1.90 | 18.90 18.67 | 18.79 |
| 6 | 36.0 | 1.81 | 19.93 19.79 | 19.86 | 69.3 | 1.95 | 19.26 19.20 | 19.23 | 21 | 36.2 | 1.97 | 20.36 20.28 | 20.32 | 75.5 | 1.94 | 20.12 20.21 | 20.17 |
| 7 | 32.4 | 1.83 | 19.82 19.75 | 19.79 | 64.3 | 1.97 | 19.33 19.43 | 19.38 | 22 | 21.5 | 1.65 | 21.63 21.56 | 21.60 | 53.3 | 2.08 | 21.40 21.35 | 21.38 |
| 8 | 17.5 | 1.61 | 21.29 21.27 | 21.28 | 52.1 | 1.98 | 20.00 20.10 | 20.05 | 23 | 61.3 | 1.54 | 20.32 20.51 | 20.42 | 81.6 | 1.76 | 19.65 19.70 | 19.68 |
| 9 | 21.2 | 1.93 | 20.76 20.71 | 20.74 | 87.9 | 1.86 | 19.62 19.14 | 19.38 | 24 | 33.9 | 2.18 | 20.39 20.62 | 20.51 | 89.2 | 2.10 | 19.88 19.43 | 19.66 |
| 10 | 28.9 | 1.96 | 20.36 20.33 | 20.35 | 78.2 | 1.96 | 19.63 19.37 | 19.50 | 25 | 31.0 | 1.94 | 20.35 20.25 | 20.30 | 96.2 | 1.87 | 19.55 19.43 | 19.49 |
| 11 | 40.2 | 2.00 | 19.42 19.42 | 19.42 | 90.9 | 2.02 | 19.11 18.97 | 19.04 | 26 | 18.4 | 1.61 | 21.32 21.30 | 21.31 | 66.1 | 1.88 | 20.92 20.76 | 20.84 |
| 12 | 46.9 | 1.73 | 19.42 19.43 | 19.43 | 75.5 | 2.15 | 19.40 19.47 | 19.44 | 27 | 23.1 | 1.82 | 20.71 20.83 | 20.77 | 68.0 | 2.00 | 20.18 20.42 | 20.30 |
| 13 | 26.5 | 1.66 | 20.65 20.39 | 20.52 | 64.2 | 1.83 | N/A 19.71 | 19.71 | 28 | 31.5 | 1.88 | 19.64 20.01 | 19.83 | 120 | 1.93 | 19.25 18.77 | 19.01 |
| 14 | 27.4 | 1.81 | 20.24 20.34 | 20.29 | 69.3 | 1.89 | 20.22 20.13 | 20.18 | 29 | 33.4 | 1.98 | 20.35 19.92 | 20.14 | 108 | 1.95 | 19.11 N/A | 19.11 |
| 15 | 24.5 | 1.55 | 21.45 21.48 | 21.47 | 52.4 | 2.06 | 21.39 21.17 | 21.28 | Baseline Threshold : H-actin (50) | | | | | | | | |

Whole Blood DNA



Whole Blood DNA

Qiagen



Whole Blood DNA

Qiagen



Whole Blood DNA

Genolution



Whole Blood DNA

Genolution



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