

# Extended Data File 1

## ENDOGENOUS KRAS SEQUENCE VERIFICATION

### COR-L23 Cell Line

Seq\_1: sequence of the Reference WT KRAS DNA (NCBI reference: NM\_004985.5)

Seq\_2: sequence of the product of a polymerase chain reaction (PCR) targeted at the KRAS endogenous locus

```
Seq_1  1      aagcgtcgatggaggagtttgtaaataagtacagttcattacgatacacgtctgcagtc  60
          |||
Seq_2  1      -----ggagtttgtaaataagtacagttcattacgatacacgtctgcagtc  47

Seq_1  61      aactggaatccccatgattgaatccccgtaaggtatccccgaaataatcccccatataaagg  120
          |||
Seq_2  48      aactggaatccccatgattgaatccccgtaaggtatccccgaaataatcccccatataaagg  107

Seq_1  121     tgagtttgattataaaagggtactggaggagtttgatagtgattataaccttatgtgtgac  180
          |||
Seq_2  108     tgagtttgattataaaagggtactggaggagtttgatagtgattataaccttatgtgtgac  167

Seq_1  181     atgttctaataatagtcacatccccattatccccattataagGCCTGCTGAAAATGACTGA  240
          |||
Seq_2  168     atgttctaataatagtcacatccccattatccccattataaggcctgctgaaaATGACTGA  227
          |||
          M T E
          Y K L V V V G A G G V G K S A L T I Q L
Seq_1  241     ATATAAACTTGTGGTAGTTGGAGCTGGTGGCGTAGGCAAGAGTGCCTTGACGATACAGCT  300
          |||
Seq_2  228     ATATAAACTTGTGGTAGTTGGAGCTGTTGGCGTAGGCAAGAGTGCCTTGACGATACAGCT  287
          |||
          Y K L V V V G A V G V G K S A L T I Q L

          I Q N H F V D E Y D P T I E
Seq_1  301     AATTCAGAATCATTTTGTGGACGAATATGATCCAACAATAGAGGtaaatcttgttttaat  360
          |||
Seq_2  288     AATTCAGAATCATTTTGTGGACGAATATGATCCAACAATAGAGGtaaatcttgttttaat  347
          |||
          I Q N H F V D E Y D P T I E

Seq_1  361     atgcatattactgggtgcaggaccattctttgatacagataaaggtttctctgaccatttt  420
          |||
Seq_2  348     atgcatattactgggtgcaggaccattctttgatacagataaaggtttctctgaccatttt  407

Seq_1  421     catgagtacttattacaagataaattatgctgaaagttaagttatctgaaatgtaccttgg  480
          |||
Seq_2  408     cat-----  410
```

# Extended Data File 1

## SU.86.86 Cell Line

Seq\_1: sequence of the Reference WT KRAS DNA (NCBI reference: NM\_004985.5)

Seq\_2: sequence of the product of a polymerase chain reaction (PCR) targeted at the KRAS endogenous locus

```
Seq_1 1      aagcgtcgatggaggagtttgtaaatgaagtacagttcattacgatacacgtctgcagtc 60
          |||
Seq_2 1      -----ggagtttgtaaatgaagtacagttcattacgatacacgtctgcagtc 47

Seq_1 61     aactggaatthttcatgattgaatthttgtaaggatthttgaaataatthttcatataaagg 120
          |||
Seq_2 48     aactggaatthttcatgattgaatthttgtaaggatthttgaaataatthttcatataaagg 107

Seq_1 121    tgagtttgattataaaaggactggtggagtatttgatagtgattataaccttatgtgtgac 180
          |||
Seq_2 108    tgagtttgattataaaaggactggtggagtatttgatagtgattataaccttatgtgtgac 167

Seq_1 181    atgttctaataatagtcacatthttcattatthttattataagGCCTGCTGAAAATGACTGA 240
          |||
Seq_2 168    atgttctaataatagtcacatthttcattatthttattataagGCCTGCTGAAAATGACTGA 227
          M T E

          Y K L V V V G A G G V G K S A L T I Q L
Seq_1 241    ATATAAACTTGTGGTAGTTGGAGCTGGTGGCGTAGGCAAGAGTGCCTTGACGATACAGCT 300
          |||
Seq_2 228    ATATAAACTTGTGGTAGTTGGAGCTGATGGCGTAGGCAAGAGTGCCTTGACGATACAGCT 287
          Y K L V V V G A D G V G K S A L T I Q L

          I Q N H F V D E Y D P T I E
Seq_1 301    AATTCAGAATCATTTTGTGGACGAATATGATCCAACAATAGAGgtaaactctgttttaat 360
          |||
Seq_2 288    AATTCAGAATCATTTTGTGGACGAATATGATCCAACAATAGAGgtaaactctgttttaat 347
          I Q N H F V D E Y D P T I E

Seq_1 361    atgcatattactggtgcaggaccattctttgatacagataaaggtttctctgaccatttt 420
          |||
Seq_2 348    atgcatattactggtgcaggaccattctttgatacagataaaggtttctctgaccatttt 407

Seq_1 421    catgagtacttattacaagataattatgctgaaagttaagttatctgaaatgtaccttg 480
          |||
Seq_2 408    catgagtac----- 416
```

## Extended Data File 1

### MIA PaCa-2 Cell Line

Seq\_1: sequence of the Reference WT KRAS DNA (NCBI reference: NM\_004985.5)

Seq\_2: sequence of the product of a polymerase chain reaction (PCR) targeted at the KRAS endogenous locus

```

Seq_1  1      aagcgtcgatggaggagtttgtaaatgaagtacagttcattacgatacacgtctgcagtc  60
          |||
Seq_2  378     -----aggagtttgtaaatgaagtacagttcattacgatacacgtctgcagtc  331

Seq_1  61      aactggaattttcatgattgaattttgtaaggtattttgaaataatttttcatataaagg  120
          |||
Seq_2  330     aactggaattttcatgattgaattttgtaaggtattttgaaataatttttcatataaagg  271

Seq_1  121     tgagtttgtattaaaaggactggtggagtatttgatagtgatttaaccttatgtgtgac  180
          |||
Seq_2  270     tgagtttgtattaaaaggactggtggagtatttgatagtgatttaaccttatgtgtgac  211

Seq_1  181     atgttctaataatagtcacattttcattatttttattataagGCCTGCTGAAAATGACTGA  240
          |||
Seq_2  210     atgttctaataatagtcacattttcattatttttattataaggcctgctgaaaATGACTGA  151
          M T E

          Y K L V V V G A G G V G K S A L T I Q L
Seq_1  241     ATATAAACTTGTGGTAGTTGGAGCTGGTGGCGTAGGCAAGAGTGCCTTGACGATACAGCT  300
          |||
Seq_2  150     ATATAAACTTGTGGTAGTTGGAGCTTGTGGCGTAGGCAAGAGTGCCTTGACGATACAGCT  91
          Y K L V V V G A C G V G K S A L T I Q L

          I Q N H F V D E Y D P T I E
Seq_1  301     AATTCAGAATCATTTTGTGGACGAATATGATCCAACAATAGAGgtaaactctgttttaat  360
          |||
Seq_2  90      AATTCAGAATCATTTTGTGGACGAATATGATCCAACAATAGAGgtaaactctgttttaat  31
          I Q N H F V D E Y D P T I E

Seq_1  361     atgcatattactggtgcaggaccattctttgatacagataaaggtttctctgaccat  420
          |||
Seq_2  30      atgcatattactggtgcaggaccattcttt-----  1

Seq_1  421     catgagttacttattacaagataattatgctgaaagttaagttatctgaaatgtacct  480
Seq_2  0      -----  1

```

**Extended Data File 1: Verification of KRAS mutation at codon 12 in patient-derived cell lines.** The PCR product sequence was aligned to a reference wildtype KRAS4B sequence (NCBI reference: NM\_004985.5) to validate the KRAS mutations at codon 12. For every sequence, the first methionine codon is highlighted in green. Codon 12 is highlighted in blue and magenta for the reference and PCR sequences, respectively. Yellow highlights the amino acid at codon 12.