

KRAS v.5 | Exon 1 (179 bp) / Exon 2 / Exon 4 / Exon 6 | @a257cbe2-2399-4af5-bec3-ff0846f33c87

GCCATTTCGGACTGGGAGCAGGCGCGGCGCAGGCAC**TGAAGGCGGCGGCGGGGCCAGAGGCTCCAGCGGCTCCAGGTGCGGGAGAGAGGCC**TGCTGAAAATGACTGAATATAAACTTGTGGTAGTTGGAGCTGGTGGCGTAGGCAAGAGTGCCTTGACGATACCAGCTAATTCAGAATCATTTGTGGACGAAATATGATCCAACAATAGAGAGAACAAATTAAAGAGTTAAGGACTCTGAAGATGTACCTATGGTCTAATTAGGAAATAAATGTGATTTGCCTTCTAGAACAGTAGACACAAAACAGGCTCAGGACTTAGCAAGAAGTATGGAATTCCTTTTATTGAAACATCAGCAAAAGACAAGACAGGGTGT**TGATGATGCAGCCTATACA**

KRAS v.6 | Exon 1 (166 bp) / Exon 2 / Exon 4 / Exon 6 | @f1e3643f-775d-45e6-bfb1-55626332e2ae

ATTTCGGACTGGGAGCGAGCGCGGCGCAGGCAC**TGAAGAAGCGGCGGCGGGGCCAAGGGGCTCAGCGGCTCCCAGGCCTGC**TGAAAATGACTGAATAAACGGTAGTTGGAGCTGGTGGCGTAGGCAAGAGTGCCTTGTTGATACAGCTAATTCGAGTCAATTTGTGGTTGAATATGATCCAACAATAGAGAGAACAATTAAGAGACAAGGACTCTGAAGTGTACCTATAGTCCTAGTGATAAATGTGATTTGCCTTCTAGAACAGTAGACACAAAACAGGCTCAGGGACTTAGCAAGAAGTTATCGATTCCTTTTATGAAAACATCAGCAAAGACAAGACAGGGTGT**TGATGATGCCTTCTATATACAGTAGTTCGAGAGCAATACGTAACCCG**

KRAS v.7 | Exon 1 (179 bp) / Exon 2 / Exon 4 / Exon 5 / Exon 6 | @8739cda9-2052-4834-a963-fcfd6ecab9b

GCGGGGCCGACTCCAGCGGCTCCCAGGTGCGGGAGAGAGGCCTGCTGAAATGACTGAATAAACTTGTAGTAGTTGGAGCTGGTGGCGTAGGCAAGAGTGCCTTGACGATACAGCTAATTCAGAATCATTTTTGTGGACGAATATGATCCAACAATAGAGAGAACAAATTAAGAGTTAAGGATACGAAGATGTACCTATATAGTCTATTAGGAAATAAATGTGATTTGCCTTCTAGAACAGTAGACACAAAACAGGCTCAGGACTTGAAGTTATGAATTCCTTTATTGAAACATCAGCAAAGACAAGACAGAGAGTGGAGGATGCTTTTTTATACATTGGTGAGAGAAGTCCGACAATACAGATTGAAAAAATCAGCAAGAAGAAAAGACTCTGGCTGTGTGAAAATTAAAAATGCATTATAATGTAATCTG**GGTGTTGATGATGCCTTCTACATTGGATT**CGAGAGCAATACGTGGCA

KRAS v.8 | Exon 1 (166 bp) / Exon 2 / Exon 4 / Exon 5 / Exon 6 | @33743cba-c72e-430e-bfea-0dc0a5a8f368

CAGGCACTGAAGGCAGCGGCGGGGCCAGAGCTCCAGCGGCTCCAGGCCTGCTGAAAATGACTGAATATAAACTTGTGGTAGTTGAGCTGGTGGCGTAGGCAAGAGTGCCTTGACGATACAGCTAATTCAGAATCATTTTTGTGGACAGGTATGATCCAACAAATAGAGAGAACAATTAAGAGTTAAGGACTCTGAAGATGTACCTATGGTCCTAGTAGGAATAAATGTTGATTTGCCTTCTAGAACAGTAGACACAAAACAGGCTCAGGACTTAGCAAGAAGTTATGGAATTCCTTTTTATTGAAACATCAGCAAAGACAAGACAGAGAGTGGAGGATGCTTTTTTATACATTGGTAGAGAGAGATCCGACAATACAGATTGAAAAAATCAGCAAGAAGAAAAGACTCCTGGCTGTGTGAGGAATTAAATGCATTATAATGTAATCTG**GGTGTTGATGATGCCTTCTATACACATTA**

KRAS v.9 | Exon 1 (166 bp) / Exon 2 / Exon 5 / Exon 6 | @ce1f8047-c967-47c8-9ef5-1985daed4e4c

GTTGTACTTTCGTTACGTTACGTATTGCACCAGCTACAGGGAGCGAGCGCGGCGCCAGGCAC**TGAAGGCGGCAGCGGGAATGACTCAGCGGCTCCCAGGCCTGC**TGAAAATGACTGAATATAAAAGCTGGCGGTAGTTGGAGCTGGTGGCGTAGGCAGAGTGCCCTTGACGATACAGCTAATTCAGGGCATCATTTTTGTGGACGAATATGATCCAACAATAGAGAGAGTGGAGGATGCTTTTTATACATTGGTGAGAGATCCGACAATACAGATTGAAAAAATCAGCAAGAAGAAAAGACTCCCTGGCTGTGTGAAAATTAATAATGCATTATAATGTAATCTGGGTCA**TTGATGCTTCT**TATACATTAGTTCGAGAGCAATACGTA**ACTA**

KRAS v.10 | Exon 1 (179 bp) / Exon 2 / Exon 6 | @d8888cff-5587-4363-8897-316b12ee2788

CTTCGTT**CAGTTACG**TATTGCTGCCATTTTCG**GA**CTGGGGCAGGCGCGGCGCAGGCAC**TGAAGGCGGCAGCGGGATTGC**AGAGCT**CAACGGCTCC**CAGGTTGCGGGAGAGAGGCCTGCTGAAATGACTGGTATAAACTTGTGGTAGTTGGGCTGGTGGCGTAGGCAAGAGTGCCTTGACGATACAGCTAATTCAGAATCATTTTGTGGACGAATATGATCCAACAATAGAG**GGTGTTGATGATGCCTTCT**ATACATTAGTTCAGGAAACAG**CCAACA**

KRAS v.11 | Exon 1 (166 bp) / Exon 2 / Exon 6 | @e794dd57-94cd-4974-85ea-f56f5f00bb13

GGTATGCTTTCGTT**CAGTTACG**TATTGCTGCCATTTTCG**GA**CTGGGAGCGAGCGCGGCATGAGCACTGAAGGCGGCAGCGAGACCAGGCTCAGCGGCTCCCAGGCCTGCTGAAAATGACTGAATATAAACTTATGTTAGTTGGGCTGGTGACGTAGGCAAGGTGCTTGACGATACAGCTAATTCAGAATCATTTTGTGGACGAATATGATCCAACAATAGAG**GGTGTTGATGATGCCTTCT**ATACGTGTTAGTTCGAGAAGCAATACGT**AACCTT**

KRAS v.12 | Exon 1 (179 bp) / Exon 3 / Exon 4 / Exon 6 | @b08afd94-b236-451e-9bc4-f1e2d7e263fa

GCTGCCATTTTCG**GA**CTGGGGGCAGGCGCGGCGCAGGCAC**TGAAGGCGGCGGCGGGACTG**AGGCTCAGCGGCTCCCAGGTGCGGGAGAGAGGATTCC**TACAGGAAGCAAGTAGTAATTGATGGAGAAACCTGTCTCTTGGATATTCTTGACACAGCAGGTC**AGAGAGTACAGTGCAATGAGGGACCAGTACATGAGGGACTGGGCTTTCTTTGTGTATTTGCCATAAAATAATACTAAATCATTTGAAGATATT**CACCATTATAGAGAACAAATTAAAGAGTTAAGGACTCTGAAGATGTACCTATGGTCCTAGTAGGAAATAAAATGTGATTTGCCTTCTAGAACAGTAGACACAAAACAGGCTCAGGACTTAGCAAGAAGAAGTTATGGAATTCCTTTTATTGAAACATCAGCAAAGACAAGACAGGGTGTTGATGATGCCTTCTATACATTAGTTCGAGAGAGCAATACGTAACCAA**

KRAS v.13 | Exon 1 (166 bp) / Exon 3 / Exon 4 / Exon 6 | @2aeee591-44fe-4222-a3b7-e8baad295d9d

CCAGTTACGTATTGCTGCCATTTTCG**GA**CTGGGAGCAGCGCAGCGCAGGCAC**TGAAGGCGGCAGCGGGGCCAGAGGCTCAGCGGCTCCCAGGATTCC**TACAGGAAGCAAGTAGTAATTGATGGAAGAAACCTGTCTCTTGAGATATTCTCGACACAGCAGGTTCAAAGAGGAGTACAGTGCAATGAGGGACCAGTACACATGAGGACTGGGAGGGCTTCTTTGTGTATTTGCCATAAAATAATACTAAATCATTTGAAGATATT**CACCATTATAGAGAACAAATTAAAGGTTAAGGACTCTGAGATGTACCCTATGGTCTAGTAGGAAATAAATGTGATTTGCCTTCTAGAACAGTAGACACAAAACAGGCTCAGGACTTAGCAAGAAGTTATGGAATTCCTTTATTGAAACATCAGCAAAGACAAGACAGAGAGTGGAGGATGCTTTTTATACATTGGTGAGAGAGATCCGACAACAGATTGAAAAATCAGCAAAGAAGAAAAGACTCCTGGCTGTGTGTGAAAATTA**AAAATGCATTATAATGTAATCTG**GGTGTTGATGATGCCTTCT**ATACATTAGTTCGAGAGCAATACGT**AGC**

KRAS v.14 | Exon 1 (179 bp) / Exon 3 / Exon 4 / Exon 5 / Exon 6 | @71eb8340-8ada-48f2-b446-54e0c76c1958

ACCGAAGGCGGCGGCGGGCCAGAGGCTCAGCGGCCCCAGGTGCGGGAGAGAGGATTCC**TACAGGAAGCAAGTAGTAATTGATGGAGAAACCTGTCTTCTGGATATTCTCGACACAGCAGGTCAAGAGGAGTACAGTGTAATGAGGGACCAAAGCATGAG**ACTGGGAGGGCTTTCTTTGTGTATTTGCCATAAAATAATACTAAATCATTTGAAGATATT**CACCATTATAGAGAACAAATTAAAGAGTTAAGGACTCTGGAAGATGTGTACCATGGTCCTAGTAGGAAATAAATGTGATTTGCCTCTAGAACAGTAGACACAAAACAGGCTCAGGACTTAGCAAGAAGTTATGGAATTCCTTTATTGAAACATCAGCAAAGACAAGACAGAGAGTGGAGGATGCTTTTTATACATTGGTGAGAGAGATCCGACAACAGATTGAAAAATCAGCAAAGAAGAAAAGACTCCTGGCTGTGTGTGAAAATTA**AAAATGCATTATAATGTAATCTG**GGTGTTGATGATGCCTTCT**ATACATTAGTTCGAGAGCAATAC

KRAS v.15 | Exon 1 (166 bp) / Exon 3 / Exon 4 / Exon 5 / Exon 6 | @bc424705-b50b-44a0-8eb2-9fed9643ed65

ACGCGCGCAGGCAC**TGAAGGCGGCGGCGGGGCCAGAGGCTCAGCGGCTCCCAGGATTCC**TACAGAAGCAAGTAGTAATTGATGGAGAAACCTGTCTTTGGATATTCTCGACACAGCAGGTCAAGAGGAGTACAGTGCAATGAGGGACCAGTATGAGGATCAGGAGGGCTTTTCTTTGTGTATTTGCCATAAAATAATACTAAATCATTTGAAGATATT**CACCATTATAGAGAACAAATTAAAGAGTTAAGGACTCTGAAGATGTACCTATGGTCCTAGTAGGAAATAAATGTGATTTGCCTTCTAGAACAGTAGACACAACAGGCTCAGGACTTAGCAAGAAGTTATGGAATTCCTTTATTGAAACATCAGCAAAGACAAGACAGAGAGTGGAGGATGCTTTTTATACATTGGTGAGAGAGATCCGACAATACAGATTGAAAAAAAAAATCAGCAAAGAAGAAAAGACTCTGGCTGTGTGTGAAAATTA**AAAATGCATTATAATGTAATCTG**GGTGTTGATGATGCCTTCT**ATACATT**AA**CGAGAGCAATAC

KRAS v.16 | Exon 1 (179 bp) / Exon 4 / Exon 6 | @f89587bd-2d2f-4ea5-9362-01f078d26137

CGGACTGGGAGCAGGCGCGGCTGAGCACTGAAGGCGGCGGCGGCAGGACCAGAGGCTCAGCGGCTCCAGGTGCGGGAGAGAGAGAAACAAATTAAAGAGTTAAGGACTCTGAAGATGTACCACATGGTCTAGTAGGAAATAAATCGTGGGTTTGCCTTCTAGAACAGTAGACACAAAACAGGCTCAGGACTTAGCAAGAGTTATGGAATTCCTTTTATTGAAACATCAGCAAAAGACAAGACAGGGTGT**TGATGATGCCTTCT**ATACATTAGTTCGAGAATAATACGT**AACTT**

KRAS v.17 | Exon 1 (166 bp) / Exon 4 / Exon 6 | @6d4c1935-08d2-46f3-8e90-dc8766e81288

GGTGTA**CTTCGTT**CAGTTACGTATTGCTGCCAGGACTGGGAGCCACTGAAGGCGGCAGCGGGGCCAGAGCTCCAGCGGCTCCCAGAGAAACAAATTAAAGAGTTAAGGACTCTGAAGATGTTACCTATAGTCCCTGATAGGAAATAAATGTGATTTGCCCTTAGAACAGTAGACACAGAACAGGCTCAGGACTTAGCAAAGTTATGGAATTCCTTTTATTGAAACATCAGCAAAGACAAGACAGGGTGT**TGATGATGCCTTCT**ATACATTAGTTCGAGAGCAATACGT**AA**

KRAS v.18 | Exon 1 (179 bp) / Exon 4 / Exon 5 / Exon 6 | @87e6ba6f-6c60-4909-9cff-449fbdf34f3e

ATCGGGAGCGAGTGCGGCGCAGCAAGCACTGAAGGCGGCGGCGGGGCCAGAGGCTCAGCGGCCTCAGGTGCGGGAGAGAGAGAAACAAATTAAAGAGTTAAGGACTCTGAAGATGTACCTATGGTCCTAGTAGGAAATAAATGATTTGCCTCTAGAACAGTAGACACAAAACAGGCTCACAGGACTTAGCAAGAAGTTATGGAATCTCTTTATTGAAACATCAGCAAAGACAAGACAGAGAGTGGAGGATGCTTTTATACATTGGGTGAGAGAGATCCGACAATACAGATTGAAAAAATCAGCAAAGGAAGAAAAGACTCC**TGGCTGTGTGAAAATTA**AAAAATGCATTATAATGTAATCTG**GGTGTTGATGATGCCTTCT**ATACATTAGTTCGAGAGCAATATGTA**ACTGAACGAAGTACAAC**

KRAS v.19 | Exon 1 (179 bp) / Exon 5 / Exon 6 | @5fc070c3-be7b-43a3-a4e0-55e64aea8555

TGCCATTTTCG**GA**CTGGGAGCGAGCGCGGCGCAGGCAC**TGAAGGCGGCAGCGGGGCCAGAGAGGCTCAGCGGCTCCCAGGTGCGGGAGAGAGAGAGTGGAGGATGCTTTTTATACATTGGTGAGAGATCCGACAATACAGATTGAAAAAAAAATCAGCAAAGAAAAAGACTCCTGGCTGTGTGAAAATTA**AAAAATGCATTATAATGTAATCTG**GGTGTTGATGATGCCTTCT**ATACATTAGTTCGAGAAGCAATACGT**AA**CCCT

KRAS v.20 | Exon 1 (179 bp) / Exon 6 | @34d23ef7-2d03-44da-8148-3bc342337722

GCTGCCATTTTCG**GA**CTGGGAGCAGGCGCGGCGCAGGCATGAGGCGGCGGGATAGAGGCTCAGCGGCTCCCCGGGTGCGGGAGAGAGGGTGT**TGATGATGCCTTCT**ATGCATTAGTTCGAGAAGCAATACGT**AACTTG**

NRAS v.2 | Exon 1 / Exon 2 / Exon 4 / Exon 5 / Exon 6 / Exon 7 | @4818787d-d10d-4553-ab0f-2f14c8e9e7cb

GTTATTACTTACCGTTCAGTTACGTATTGCTGCTGTGGTCCTAAATCCTGTCCAAAGCAGAGAGGCAGTGGAGCTTGAGGTTCTTGCTGGTGTGAAATGACTGGAGTACAAACTGAAGGTGTTGATAGTTAGGGCGGGTGGTGTGGGAAAGCGCACTGAC
AATCCAGCTAATCAAGATTTCCACTTTGTAGATGAATATGATCCACCATAGAGGGAGCAGATTAAGCGAGTAAAGAACTCGGATGATGTACCTATGGTGCTGAGTGGGAAACAAGTGTGATTTGCCAACAAGGACGGATTGATACAAAACAAGCCCACGA
ACTGGCCAGAGTTACGGGATTCCATTCAATTGAAACCTCAGCCCAAGACCAGACAGGGTGTTGAAGATGCTTTTACACACTGGTAAGAGAAATACGCCAGTACCAGATGAAAAAACTCAACAGCAGTGATGATAGAGTAGGCTCAGGTTGTATGGGATTG
CCATGTGTGGTGATGTAACAAGATACTTTTAAAGTTTTGTGTCAGAAAAGAGCCACTTTCAAGCTGCACCTGACACCCTGGTCCTGACTTCCCTGGAGAATATTCTGTGCTGTCTTCAGTCTCACAGGTAATACGTAACTA

NRAS v.3 | Exon 1 / Exon 2 / Exon 5 / Exon 6 / Exon 7 | @b3b02955-cf9d-4127-a42f-12767d51b28b

GTTATTACTTTCGTTTCAGTTACGTATTATTCACCTGCATTGCTGTGGTCCTAAATCTGTGTCCAAAGCAAAGGCAGTGGAGCTTGAGGTTCTTGCTGGTGTGAAATGACTGAGTACAAACTGGTGGTGGTTAAGACGGGTGGTGTGGGAAAGCGCACTGAC
AATCCAGCTAATCCAGAACCACCTTTGTAGATGAATATGAATCCACCACCATAGAGGGTGTTGAAGATCACTTTTTTACACTGGTAGAGAAATACGCCAGTACCGAATGAAAAAAAACCTCAACAGCAGTGATGATGGGACTCAGGGTTGTATGGGATTGC
CATGTGTGGTGATGTAACAAGATACTTTTAAAGTTTTGTCAAGAAAAGAGCCACTTTCAAGCTGCACCTGACACCCTGGTCCTGACTTCCCTGGAGGAGAGAATATTCTGTGCTGTCTTCAGTCTCACAGGTAATACGTAACTA

NRAS v.4 | Exon 1 / Exon 2 / Exon 3 / Exon 5 / Exon 6 / Exon 7 | @0b40509c-9701-48f1-b797-046823b3bcb4

TATTACTTTCGTTTCAGTTACGTATTGCTGCCACATGGTCTAAATCTGTGTCCAAACAGAGGCAGTGTTGGAGCTTGAGGTTCTTGCTGGTGTGAAATATTTGAGCAAATAATTGATGAGGATTTGGAGCAGGTGGTGTGGGAAAGCGCACTGACAGTCCAGCT
AATCAGAAACGCCACCTTTGTAGATGAATATGATCCACCATAGAGGATTCTTACAGAGAAAAACAAGTGTTATAGATGGTGGGAAACCTGTTTGTGGACATACTGGATACAGCTGGACAAGAAGAGTACAGTGCCATGAGAGACCAATACATGAGGACAG
GCGAGAAACTTCCTCTGTGTATTGCCATCAATAATAACTTAAAGTCATTTGCGGATATTAACCTCTACAGGGTGTTGAAGATGCTTTTACACACACTGGTAAAGAGAGAAAATACGCCAGTACTGAATGAAAAAACTCAACAGCAGTGATGATGATGGGACT
CAGGGTTGTATGGGATTGCCATGTGTGGTGATGTAACAAGATACTTTTAAAGTTTTGTGTCAGAAAGAGCCACTTTCAAGCTGCACCTGACACCCTGGTCCTGACTTCCCTGAATATTCTGTGCTGTCTTCAGTCTCACAGATCAATACGTAACCT

NRAS v.5 | Exon 1 / Exon 2 / Exon 3 / Exon 4 / Exon 5 / Exon 7 | @490e0bbf-14f0-464e-8ebe-89467dfc0618

TCAGTGTACTTCGTTTCAGTTACGTATTGCTGCTGTGGTCTAAATCTGTGTCCAAAGCAGAGGCAGTGGAGCTTGAGGTTCTTGCTGGTGTGAAGTGACTGAGTACAAACTGGGTGGTGAGGTTGGAGCAGGTGGTGTGGGAAAAGCGCACTGACAGTCAGC
TAATCCAGAACCACCTTTGTAGATGAATATGATCCACCATAGAGGATTCTTACAGAAAAACAAGTGTTATAGATGGGTGAAACCTGTTTGTGGACATACTGGATACAGCTGGACAAGAAGAGTACAGTGCCATGAGAGACCAATACATGAGGACAGGCG
AAGGCTTCCTCTGTGTATTGCCATCAATAATAGCAAGTCATTTTGCGGATATTAACCTCTACAGGGAGCAGATTAAGCGAAAGGTAAGAGACTGGATGATGATGTACCTATGGTGCTAGTGGGAAGCAAGTGTGATTTGCCAACAAGGACAGTTGATACA
AAACAAGCCCACGAACTGGCCAAGAGTTACAGGATTCCATTCAATTGAAACCTCAGCCAAGACCAGACAGGGTGTTGAAGATACTTTTACACACTGGTAAAGAGAAATATATATTACCGAATGAAAAAACTCAACAGCAGTGATGATGGGACTCAGGGTTGT
ATGGGATTGCCATGTGTGGTGATGTAACAAGCTGCACCTGACACCCTGGTCTGGCTTCCTGGAGGAGAAGTATTCTGTGCTGTCTTCAGTCTCACAGAGTATATTACGTAA

NRAS v.6 | Exon 1 / Exon 3 / Exon 4 / Exon 5 / Exon 6 / Exon 7 | @716cf80d-6aa3-4997-8218-c499d5109a9d

GTGTACTTTCGTTTCAGTTACGTATTGCTGCTGTGGTCCTAAATCTGTGTCCAAAGCAGAGGCGTGAGCTTGAGGATTCTTACAGAAAGCAGAGTGTTATAGATGGTAGAAACCTGTTTGTGGACATACTGGATACAGCTGGACAAGAGAAGAGTACAGTG
CCATGAGAGACCAATACATGAGGACAGGCGAGAAGGCTTTGTGTTGCCATCAATAATAACTTAAAGTCATTTGCGGATACCAACCTCTACAGGGAGCAGATTAAGCGAGTAAAAGACTCCGGATAGATGTACCTATGGTGCTAGTGGGAAACAAGTGTGA
TTTGCCAACAAGGACAGTTGATACAAAACAAGCCCACGAACCTGGCCAAGAGTTACGGGATTCCATTCAATACAAGAGCCTCAGCCAAGACCAGACAGGGTGTTGAAGATGCTTTTTTACACACTGGTAAAGAGAAAATACGCCAGTACCGAATGAAAAAAC
TCAACAGCAGTGATGATGGGACTCAGGGTTGTATGGGATTGCCATGTGTGTGGTGATGTAACAAGATACTTTTAAAGTTTTGTGTCAGAAAAAGGCCACTTTCAAGCTGCACCTGACACCCTGGTCCTGACTTCCCTGGAGGAGAAGTATTTCCTGTGCTGT

NRAS v.7 | Exon 1 / Exon 4 / Exon 5 / Exon 6 / Exon 7 | @6b8cac39-0713-4acb-bef9-5cb90efefd65

TTGTTGTGGTCCCAAATCTGTGTCCAAAGCAGAGGCGGTGGAGCTTGAGGGAGCAGATTAAGCGGTAAAGACTGGATGATGTACCTATGGTGCTAGTGTGTCAAGTGTGATTTGGCCAACAAGGACAGTTGATACAAAACAAGCCTCCACGAACTGGCCAAGA
GTTACGGATTCCATTCAATTGAAACCTCAGCCAAGACCAGACAGGGTGTTGAAGATGCTTTTTTACACACTGGTAAAGAGAAATACGTCGAAAAAACTCAACAGCAGTGATGATGGACCAGGGTTGTATGGGATTGCCATGTGTGGTGATGTAACAAGATACT
TTTAAAGTTTTGTGTCAGAAAAGAGCCACTTTCAAGCTGCACCTGACACCCTGGTCCTGACTTCCTGAGGAGAAGTATTCTGTTGCTGTCTTCAGTCTCACAGAGCAATACGTAACTGAACGAAGTACACGC

NRAS v.8 | Exon 1 / Exon 4 / Exon 5 / Exon 7 | @f3d42699-86ea-49ae-a4e7-49dec26fcc10

TAATCCAAAGCAGAGGCAGTGGAGCTTGAGGGAGCAGATTAAGCGAGTAAAGACTCGGATGATGTACCTATGGTGTTAGTGGGAAACAAGTGTGATTTGCCAACAAGGACAGTTGATACAAAACAAGTCTAATGAACTGGCCAAGAGTTACGGGATTCAT
TCATTGAAACCTCAGCCAAGACCAGACAGGGTGTTGAAGATGCTTTTACACACTGGTAAAGAGAAATACGCCAGTACCGAATGAAAAAACTCAACAGCAGTGATGATGGGACTCAGGTTGTATGGGATTGCCATGTGTGGTGATGTAACAAGCTGCACCTGA
CACCTGGTCTGACTTCCTGGAGGAGAAGTATTCTGTGCTGTCTTCAGTCTCACAGAGCAATACGTAACTGAACGAAGTACAAC

NRAS v.9 | Exon 1 / Exon 5 / Exon 6 / Exon 7 | @84f0d693-cef4-41f8-a08a-0e8d9c8c016f

GTATACTTTCGTTTCAGTTACATATTGCTGCTGTGGTCCCTGAAATCTGTCTCAAAGCGAGGCAGTGGAGCTTGAGGGTGTTGAAGATGCTTTTTTACACACTGGTAAAATACGCCAGTACCGAATGAAAAAACTCAACAGCGTGATGATGGGACTCTCAGGA
GTTGTATGGGATTGCCATGTGTGTGGTGATGTAACAAGATACTTTTAAAGTTTTGTGTCAGAAAGAGCCACTTTCAAGCTGCACCTGACACCTGGTCTGACTTCCCTGGAGGAAGTATTCTGTGAGTTTTTCATTTCGACTACTAACGCCTTCCTAACACA

NRAS v.10 | Exon 1 / Exon 5 / Exon 7 | @fe0d1a78-3525-475f-a467-be61735ec46d

TATTTTTTTTTTTTCGATATTGCTGCTGTGGTCCTAAATCTGTGTCCAAAGCAGGCAGTGGAGCTTGAGGGTGTTGAAGATGCTTTTTTACACACTGGTAAAGAGAAATACGCCAGTACCGAATGAAAAAACTCAACAGCAGTGATGATGGGACTCAGGTTGTATG
GATTGCCATGTGTGGTGATGTAACAAGCTGCACCTGACACCCTGGTCTGACTTCCTGGAGGAGAAGTATTCTGTGCTGTCTTCAGTCTCACAGAGCAATACGTAACTGAACGAAGTACAAC

HRAS v.5 | Exon 1 / Exon 3 / Exon 4 / Exon 6 / Exon 7 | @f73429e7-260c-433a-8ae0-0820eb4d56d7

GCAGT**CGCGCCTGTGAACG**GATTTCCTACCGGAAGCGGTGGTCATTGATGGGGAGACGTGCCTGTTGGACATCCTGGATACCGCCGGCCAGGAGGAGTACAGCGCCATGCAGGACCAGTACATGCGCACCGGGGAGGGCTTCCTGTGTGTGTTTGCCATCAACAACACACCAAGTCTTTTGAGGACATCCACCAGTACAGGGAGCAGATCAAACAGGTGAAGGACTCGGATGACGTGCCCATGGTGCTGGTGGGGAACAAATTGTGACCTGGCTGCGCACTGTGGAATCTCGGCAGGCTCAGGACCTCGCCGAAGCTACGGCATCCTTACATCGAGACCTCGGCCAGAGACCCGGCAGGGAGTGGAGGATGCCTTCTACACGTTGGTGCCTGAGATCCCGGCAGCACAAAGCTGCGGAAGCTGAACCCCTCTGATGAGAGTGGCCCCGGCTGCACCCAGGCTGCAAGAAGTGTGGCTCTCCTGACGAGCACAAGCTCAGGACATGGAGGTGC

HRAS v.6 | Exon 1 / Exon 3 / Exon 4 / Exon 6 (514nt) | @36113edd-b014-40e3-b768-5fc99497e015

GCAGT**CGCGCCTGTGAACG**GATTTCCTACCGGAAGCAGGTGGTCATTGATGGGGAGACGTGCCTGTTGACATCCTGGATACCGCCGGCCAGGAGGAGTACAGCCATGCGGGACCAGTACATGCGCACCGGGGAGGGCTTCCTGTGTGTGTTTGCCATCAACAACACCAAGTCTTTTGAGGACATCCACCAGTACAGGGAGCAGATCAAACGGGTGAAGGACTCGGATGACGTGCCCATGGTGCTGGTGGGGAACAGTGACCTGGCTGCACGCACTGTGGAATCTCGGCAGGCTCAGGACCTCGCCTGAAGCCACGGCATCCTACATCGAGACCCGGCCAAAGACCCGGCAGGGAGTGGAGGATGCCTCTACACGTTGGTGCCTGAGATTCGGCAGCACAAAGCTGCGGAAGCTGAACCTCCTTGATGAGAGTGGCCCCACTGCATGTGAGCTGCAGCGTGTGCTCTCCTGACGCAGGTGAGGGGACTCCCAGGGCGGCCGCCACGCCACCGGATGACCTTGGCTCCCGCCCCCTGCCGCTCTCCTGGCCTGCGGTGAGCAGCCTCCCTTGTTGCCCGCCAGCAATGCAAGCTCAGGACATGGAGGTGC

HRAS v.7 | Exon 1 / Exon 3 / Exon 4 / Exon 5 / Exon 6 / Exon 7 | @d349de3a-d747-4cbd-9aa2-89427fdb21d5

GCAGT**CGCGCCTGTGAACG**GATTTCCTACCGGAAGCGGTGGTCATTGATGGGGAGACGTGCCTGTTGGACATCCTGGATGATACCGCCGGCCAGGAGAATTACAGCGCCATGCAGGACCAGTACATACGCACCAGGGAGGAACCTTCCTGTGTGTGTTTGCCATCAACATCAGCAACGCCAGTCTTTTGAGGACATCCACCAGTACAGGGAGCAGATCAAACGGGTGAAGGACTGGATGACGTGCCCATGGTGCTGGTGGGAACAAATGTGACCTGGCTGCACGCACTGTGGAATCTCGGCAGGCTCAGGACCTCGCCAGAAGCTACATCCCCTACATCGAGACCTCGTGACCCGGCAGGGCAGCCGCTCCTGTTTACCCTTAGGACCCCGGGACCCGGTGCCCTCGCGCTGGAGTGGAGGATACCTTCTACACGTTGGTGCCTGAAGATCCGGCAGCACAAAGCTGCGGAAGCTGAACCCCTCTGATGAGAGTGGCCCCCATGTGAGCTGCAAGTGTGTGCTCTCCTGACGCAGCACAAGCTCAGGACATGGAGGTGC

HRAS v.8 | Exon 1 / Exon 3 / Exon 4 / Exon 5 / Exon 6 (514nt) | @49895350-4d45-4a10-904a-32d719d51907

GCAGT**CGCGCCTGTGAACG**GATTTCCTACCGGAAGCAGGTGGTCATTGATGGAGACGTGCCTGTTGGACATCCTGGATACCGCCGGTAGCCAGGAGGAGTACAGCGCCATGCGGGACCAGTACATGCGCACCGGGGAGGGAGCTTCCTGTGTGTTTGCCATCAACAACACCAAGTCTTTTGAGACATCCACCAGTACAGGGAGCAGATCAAACGGGTGAAGGACTCGGATGACGTGCCCATAGTGCTGGTGAGAACAAAGTGTGACCTGGCTGCACGCACTGTGGAATCTCGGCAGGCTCAGGACCTCACCGCCCGAAGCTACAGCATCCCCATCGAGACCTCGGCCAAAGACCCGGCAGGGCAGCCGCTCTGGCTTAGCTCCAGTCCGGGACCCCTCTGGGACCCCGGGACCCACTGTGACCCATGGCCCTCGCGCTGGAGTGGAGGATGCATTCTACACGTTGGTGCCTGAGATCCGCGACAGCACAAAGCTGCGGAAGCTGAACCCCTCTGATGAGAGTGGCTGGCTGCATGAACAGAGTGTGTGCTCTCCTGACGCAGGTGAGGACTCCAGGGCCGCCACGCCACCGGATGACCCCGCTCCCCGCCCCCTGCCGGTCTCCTGGCCTGCGGTGAGCCTCCCTTGTGCCCCGCCAGCACAAAGCTCAGGACATGGAGGTGC

HRAS v.9 | Exon 1 / Exon 4 / Exon 6 / Exon 7 | @58e06c3d-9190-4221-915a-ad91acddb2dd

GCAGT**CGCGCCTGTGAACG**GGAGCAGATCAAACGGGGTGAAGGACTCGGATGACGTGCCCATGGTGCTGGTGGAAATGCGTGAGTTCGGGCTTACCGCACTGTGGAATCTCGGCAGGCTCAGGACTCGCTCGAAGCTACGGCATCCCCTACATCGAGACCTCGGCCAAGACCCGGCAGGGAGTGGAGGATGCCTTCTACACGTTGGTGCAGGATCCGGCAGCAATAAGCTGCGAAGCTGAACCTCCTGGATGAGAGTGGCCCTGCTGCATGAGCTGCAAGTGTGTAAGCCTCTCCTGACGCAGCACAAGCTCAGGACATGGAGGTGC

HRAS v.10 | Exon 1 / Exon 4 / Exon 6 (514nt) | @7aaf1fc14-8bfb-4d12-beb3-7c58db012db4

GCAGT**CGCGCCTGTGAACG**GGAGCAGATCAAACGGGTGAAGGACTCGGGATGACGTGCCCATGGTGCTGCGGGGAACAGTGTGACCTGGCTGCACGCACTGGGGAATCTCGGCAGGCTCAGGACTGCCCCGAAGCTACGGCATCCCCTACATCGAGACCTCGCCAAGACCCGGCAGGGAGTGGAGGATGCCTCTGCCATCGTTGGTGCGGGAGGATCCGGCAGCAATAAGCTGCGGGAAGCCGGAACCCCTCCCTGATGAGAGTGGCTCCCGGCTGCATGAGCCGGTGGGGTGTGTGCCTCCTGACGCAGGTGAGGGGACTCCCAGGGCGGCTGCCACGCCCACCGGATGACCCGGCTCCCCGCCCTGCCGGTCTCCTGGCCTGCGGTGAGCAGCCCTTGTTGCCCGCCAGCACAAAGCTCAGGACATGGAGGTGC

HRAS v.11 | Exon 1 / Exon 4 / Exon 5 / Exon 6 / Exon 7 | @bac214ad-0aa2-48ee-802f-aff3bd3760ba

GCAGT**CGCGCCTGTGAACG**GGAGCAGATCAAACGGGTGAAGGACTCCGGATGACGTGCCCATGGTGCTGGTGGGAACAAGTGTGACCTGGCTGCACACTGTGGGTCTCGGCAGGCTCAGGACCTCGCTGACTGCGGCATCCCTACATCGAGACCTCGGC

CAAGACCCGGCAGGGCAGCCGCTCTGGCTCTAGCTCCAGCTCCAGGACCCCTCTGGGACCCAGGACCCATGTGACCCAGCGGCCCTCGCGCTGGAGTGGAGGATGCCTTCTACACGTTGGTGCCTGCGCAGCACAAAGCTGCGGAAGCTGAACCCCTCTGATGAAATTGGCCCCGGTGCTGAAGGCTGCAAGTGTGTGCTCTCCTGACGCAGCACAAGCTCAGGACATGGAGGTGC

HRAS v.12 | Exon 1 / Exon 4 / Exon 5 / Exon 6 (514nt) | @b856cb7f-e1db-4ed6-aa48-636cc4ealbec

GCAGT**CGCGCCTGTGAACG**GGAGCAGATCAAACGGGTGAAGGACTCGATGACGTGCCCATGGTGCTGGTGGGGAACAAGTGTGACCTGGCTGCACGCACTGTGGAACCTTCGGCAGGCTCAGGACTCGTTCGAAGCTACGGCATCCCCACATCGAGACCTCGGCCAAGACCCGGCAGGGCAGCCGCTCGCTCGCCCAGCCTGGGACCCCTCTGACCCTGGGACCCATGTGACCCAGCGGCCCTCGCGCTGGAGTGGAGGATGCCTTCTACACGTTATGCGTGAGATCTTCGGCAGCATTGCTGCGGAAGCTGAACCTCTGATGAGAGGCCCTGGCTGCATGAGCTGCAAGTGTGTGCTCTCCTGACGCAGGTGAGGGACTCCCAGGGCGGCCGCCACGCCACCGGATGACCCTGCTCCCCGCCCTGCCGGTCTTCCTGCCTGCGGTGAGCAGCCTCCCTTGTTGCCCGCCAGCA

CAAGCTCAGGACATGGAGGTGC

HRAS v.13 | Exon 1 / Exon 5 / Exon 6 / Exon 7 | @931d2857-0bd6-472b-aa13-7f82c4eb92f8

GCAGT**CGCGCCTGTGAACG**GGCAGCCGCTCTGGCTCTAGCTCCAGCTCCGGCAGGGACCTCTCTGTGGACCCCCCGGGACCCATGTGACCCAGCGGCCCTCGCGCTGGAGTGGAGGATGCCTTCTACGTTGGTGCCTGAGATCCGGCAGCACAAAGCTGCGGAAGCTGAACCCCTCCTGATGAGGTGGCCCCGGCTGCATGAGCTGCAAGTGTGTGCTCTCCTGACGCAGCACAAGCTCAGGACATGGAGGTGC

HRAS v.14 | Exon 1 / Exon 5 / Exon 6 (514nt) | @5007e468-ecc8-4fbb-9cce-4c96d6664ab7

GCAGT**CGCGCCTGTGAACG**GGCAGCCGCTCTGGCTTCTAGTCTACCTGGGACCCCTCTGACCCCGACCCATGTGACCCAGCGGCCCTCGCGCTGGAGTGGAGGAGATGCTCTCTACACGTTGCGCAAGAGATCCGGCAGCACAAAGCTGCGGAAGCTGAACCTCCTCTGATGAGAGTGGCCCTGGCTGCATGAGCTTTTGCGTATGCTCTCCTGACGCAGGTGAGGGGACTCCAGGGCGGCTGCCACGCCTCCACCGGATGACCCGGCTCCCGCCTGCCGGTCTCCTGGCCTGTGTGAGCAGCTCCCTTGTTGCCCGCCCAGCA

AGCAATAAGTCCCAGGACATGGAGGTGC

HRAS v.15 | Exon 1 / Exon 6 / Exon 7 | @7ab1e012-0f77-44ee-8997-4defce9f3ed3

GCAGT**CGCGCCTGTGAACG**GGAGTGGAGGATGCCTTCTACACGCTGGTGTGAGATCCGCAGCACAAAGCTGCGGAAGCTGAACCCCTCCTTGATGAGAGTGGCCCTGGCTGCATGAGCTGCAAGTGTGTGCTCTCCTGACGCAGCACAAGCTCAGGACATGGAGGTGC

HRAS v.16 | Exon 1 / Exon 6 (514nt) | @464d7e29-442e-4869-b1ca-ad4d2a2ede6e

GCAGT**CGCGCCTGTGAACG**GGAGTGGAGGATGCCTTCTACACGTTGGTGCCTGAATCCGGCAGCACAAAGCTGCGGAAGCTGAACCCCTCCTGATGAGAGTGGCCCCGGCTGCGCAGGCTGCAAGTGTGTGCTCTCCTGACGCAGGTGAGGGGACTCCAGATTTGTGCGCCACGCCACCGGATGACCCCGAAACACCACCCTGCCGGTCTCCTGGCCTGCGGTGAGCGGCTCCCTTGTTGCCCGCCCAGCACAAAGCTCAGGACATGGAGGTGC

HRAS v.17 | Exon 1 / Exon 2 / Exon 4 / Exon 6 / Exon 7 | @f0b77cce-5771-4828-ace2-4e8d0b7e67af

GCAGT**CGCGCCTGTGAACG**GTGGGGCAGGAGACCCTGTAGGGAGGTGGACCTCGGCCGCAGGCCCTTGAGGAGCGATGACGGAATATAAGCTGCGGTGGTGGGCGCCGGCTGTGGGGCAAGAGTGCCTGACCATCCAGCTGATCCAGAACCATTTTGTGGACGAATACGACCCCCACTATAGAGGGAGCAGATCAAACGGGTGAAGGACTCGGATGACGTGCCCATGGTGCTGGTGTGGGGAACAAGTGTGACCCGGCTGCACGCACTGTGGAATCTCGGCAGGCTCAGGACCTGCTCAGCTACGGCAGCATCCCCTGGGCATCGAGACCCGCCAAGACCCGGCAGGGAGTGGAGGATGCCTTCTACACGTTGGTGCAGATCCGGCAGCACAAAGCTGCGGAAGCTGAACCCCTCCTGATGAGAGTGGCCCCGGCTGCATGAGCTGCAAGTGTGTGCTCTCCTGACGCAGCACAAGCTCAGGACATGGAGGTGC

HRAS v.18 | Exon 1 / Exon 2 / Exon 4 / Exon 6 (514nt) | @e54fb437-a8f3-4150-99b8-f6388fc372f0

GCAGT**CGCGCCTGTGAACG**GTGGGGCAGGAGACCCTGTAGGATGCACCCCGGGCCGCAGGCCCTTGAGGAGCGATGACGGAATATAAGCTTGTGTGGTGGTGGGCGCCGGCTGGGCAAGAGTGCCTGGAATTCTCATTCAGCCGGATCCAGAACCATTGTTGTGGACGAATACGACCCCCACTATAGAGGGAGCAGATCAACGGGTGAAGGACTCGGATGGCGTGCCCATGGTGCGGTGGGGAACAACAAGTGTGACCTGGCTAAATGCACTGTGGAACCTCGGCGCCTAGGACTCGCCCGAAGCTACGGCATCCCCATCGAGACCTCGGCCAAGACCCGGCAGGGAGTGGAGGATGCCTTCTACACGTTGGTGCCTGAGATCCGGCAGAGCACAAAGCTGCGGAAGCTGAACCCCTCCTGATGAGTGGCCCCGGCTGCATGATGCGTGTGCTCTCCTGACGCAGGTGAGGGGAATTCCA

GGCTGCCGGCCACGCCACCGGATGATCTGCTCTGCCCTGCCGGTCTCCTGGCCTGCGGTGAGCAGCCTCCCCTTGTTGGCCCCGCCAGCACAAAGCTCAGGACATGGAGGTGC

Ion Torrent sequencing reads confirming the novel splice junctions

KRAS Exon 2 / Exon 4 - @0403W:01920:02989
CGTAGGCAAGAGTGCCTTGACGATACAGCTAATTCAGAATCATTTTGTGGACGAATATGATCCAACAATAGAGAGAACAATTAAAAGAGTTAAGGACTCTGAAGATGTACCTATGGTCCTAGTAGGAAATAAATGTGATTGTCCTTCTAGAACAGTAGA

KRAS Exon 2 / Exon 5 - @0403W:01054:02562
GACGTAGGCAAGAGTGCCTTGACGATACAGCTAATTCAGAATCATTTTGTGGACGAATATGATCCAACAATAGAGAGAGTGGAGGATGCTTTTTTATACATTGGTGAGAGAGATCCGACAATACAGATTGAAAAAATCAGCAAAGAAGAAAAGACTCCTG

KRAS Exon 2 / Exon 6 - @0403W:02065:03307
GTAGGCAAGAGTGCCTTGACGATACAGCTAATTCAGAATCATTTTGTGGACGAATATGATCCAACAATAGAGGGTGTTGATGATGCCTTCTATGTAGGAAATAAATGTGATTGTCCTTCTAGAACAGTAGACACAAAACAGGCTCAGGACTTAGCAAGAA

KRAS Exon 1 (179 bp) / Exon 3 - @0403W:01910:02711
GGACTGGGAGCGAGCGCGGCGCAGGCACTGAAGGCGGCGGCGGGGCCAGAGGCTCAGCGGCTCCCAGGTGCGGGAGAGAGGATTTCCTACAGGAAGCAAGTAGTAATTGATGGAGAAACCTGTCTCTTGGATATTCTCGACACAGCAGGTCAAGAGGAGTA

KRAS Exon 1 (166 bp) / Exon 3 - @0403W:01975:00921
CTGGGAGCGAGCGCGGCGCAGGCACTGAAGGCGGCGGCGGGGCCAGAGGCTCAGCGGCTCCCAGGATTCCTACAGGAAGCAAGTAGTAATTGATGGAGAAACCTGTCTCTTGGATATTCTCGACACAGCAGGTCAAGAGGAGTACAGTGCAATGAGGGAC

KRAS Exon 1 (179 bp) / Exon 4 - @0403W:01507:03156
GGAGCGAGCGCGGCGCAGGCACTGAAGGCGGCGGCGGGGCCAGAGGCTCAGCGGCTCCCAGGTGCGGGAGAGAGAGAACAATTAAAAGAGTTAAGGACTCTGAAGATGTACCTATGGTCCTAGTAGGAAATAAATGTGATTGTCCTTCTAGAACAGTAG

KRAS Exon 1 (166 bp) / Exon 4 - @0403W:01785:02091
GGAGCGAGCGCGGGCGCAGGCACTGAAGGCGGCGGCGGGGCCAGAGGGCTCAGCGGCTCCCAGAGAACAAATTAAAAGAGTTAAGGACTCTGAAGATGTACCTATGGTCCTAGTAGGAAATAAATGTGATTGTCCTTCTAGAACAGTAGACACAAAACA

KRAS Exon 1 (179 bp) / Exon 5 - @0403W:01009:02159
GCGGCGCAGGCACTGAAGGCGGCGGCGGGGCCAGAGGCTCAGCGGCTCCCAGGTGCGGGAGAGAGAGAGTGGAGGATGCTTTTTTATACATTGGTGAGAGAGATCCGACAATACAGATTGAAAAAAAAATCAGCAAAGAAGAAAAAGACTCCTGGCTGTG

KRAS Exon 1 (179 bp) / Exon 6 - @0403W:00792:01291
AAGGCGGCGGCGGGGCCAGAGGCTCAGCGGCTCCCAGGTGCGGGAGAGAGGGTGTTGATGATGCCTTCTATACATTAGTTCGAGACTAAATCATTTGAAGATATTACCATTATAGAGAACAAATTAAAAGAGTTAAGGACTCTGAAGATGTACCTATGG

NRAS Exon 2 / Exon 4 - @0403W:01961:03127
GAAAAGCGCACTGACAATCCAGCTAATCCAGAACCACCTTTGTAGATGAATATGATCCCACCATAGAGGGAGCAGATTAAGCGAGTAAAAGACTCGGATGATGTACCTATGGTGCTAGTGGGAAACAAGTGTGATTTGCCAACAAGGACAGTTGATACAAA

NRAS Exon 2 / Exon 5 - @0403W:01861:02332
TGGGAAAAGCGCACTGACAATCCAGCTAATCCAGAACCACCTTTGTAGATGAATATGATCCCACCATAGAGGGTGTTGAAGATGCTTTTTTACACACTGGTAAGAGAAATACGCCAGTACCGAATGAAAAAATCAACAGCAGTGATGATGGGACTCAGGGT

NRAS Exon 3 / Exon 5 - @0403W:01029:01339
GACAGGCGAAGGCTTCCTCTGTGTATTTGCCATCAATAATAGCAAGTCATTTGCGGATATTAACCTCTACAGGGTGTTGAAGATGCTTTTTTACACACTGGTAAGAGAAAATACGCCAGTACCGAATGAAAAAATCAACAGCAGTGATGATGGGACTCAG

NRAS Exon 5 / Exon 7 - @0403W:01133:01036
GAAATACGCCAGTACCGAATGAAAAAATCAACAGCAGTGATGATGGGACTCAGGGTTGTATGGGATTGCCATGTGTGGTGATGTAACAAGCTGCACTGACACCCTGGTCCTGACTTCCCTGGAGGAGAAGTATTCCCTGTTGCTGTCTTCAGTCTCACAG

NRAS Exon 1 / Exon 3 - @0403W:00169:02151
GCTGTGGTCCCTAAATCTGTCCAAAGCAGAGGCAGTTGAGGATTCTTACAGAAAACAAGTGGTTATAGATGGTGAAACCTGTTTGTGGACATACTGGATACAGCTGGACAAGAAGAG

NRAS Exon 1 / Exon 4 - @0403W:01169:02653
GCTGTGGTCCCTAAATCTGTCCAAAGCAGAGGCAGTTGAGGGAGCAGATTAAGCGAGTAAAAGACTCGGATGATGTACCTATGGTGCTAGTGGGAAACAAGTGTGATTTGCCAACAAGGACAGTTGATACAA

NRAS Exon 1 / Exon 5 - @0403W:01457:02283
GCTGTGGTCCCTAAATCTGTCCAAAGCAGAGGCAGTTGAGGGTGTTGAAGATGCTTTTTTACACACTGGTAAGAGAAAATACGCCAGTACCGAATGAAAAAATCAACAGCAGTGATGATGGGACTCAGGGTTGTATGGGATTGCCATGTGTGGTGTA

HRAS Exon 1 / Exon 3 - @FS82K:01967:00841
CGCAGTCGCGCCTGTGAACGGATTTCCTACCGGAAGCAGGTGGTCATTGATGGGGAGACGTGCCTGGTTGGACATCCTGGATACCGCCGGCCAGGAGGAGTACAGCGGCCATGCGG

HRAS Exon 1 / Exon 4 - @FS82K:01459:01908
GATGCAGTCGCGCCTGTGAACGGGAGCAGATCAAACGGGTGAAGGACTCGGATGACGTGCCCATGGTGCTGGTGGGGAACAAGTGTGACCTGGCTGCACGCACTGTGGAATCTCGGCAG

HRAS Exon 1 / Exon 5 - @FS82K:01421:01779
CGGGGGCAGTCGCGCCTGTGAACGGGCAGCCGCTCTGGCTCTAGCTCCAGCTCCGGGACCCTCTGGGACCCCCCGGGAC

HRAS Exon 1 / Exon 6 / Exon 7 - @FS82K:01029:01993
GCCTGTGAACGGGAGTGGAGGATGCCTTCTACACGTTGGTGCGTGAGATCCGGCAGCACAAAGCTGCGGAAGCTGAACCTCCTGATGAGAGTGGCCCCGGCTGCATGAGCTGCAAGTGTGTGCTCTCCTGACGCAGCACAAAGCTCAGGACATGGAGGTGC

HRAS Exon 2 / Exon 4 - @FS82K:01703:00631
GTGGTGGGCGCGGCGGTGTGGGCAAGAGTGCCTGACCATCCAGCTGATCCAGAACCATTTTGTGGACGAATACGACCCCACTATAGAGGGAGCAGATCAAACGGGTGAAGGACTCGGATGACGTGCCATGGTGCTGGTGGGGAACAAGTGTGACCTG