

SUPPLEMENTARY DATA

Data 1. *TP53* sequence with crRNA and capture probes

Data 2. GeneBlock sequence

TP53 tumor protein p53 [Homo sapiens (human)]
NC_000017.11 Chromosome 17 Reference GRCh38.p2 Primary Assembly
Positive Strand, exons only (not entire sequence)

Key:

Green letters: Coding region. Exon names are indicated in right margin and boxed together when they are cut in the same fragment

Yellow highlight: Cas9 cut site, PAM sequence are underlined with double line

Red underline: Biotinylated probes. Probes name are indicated in left margin

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ATACAAGAGATGAAATCCTCCAGGGTGTGGGATGGGGTGAGATTTCTTTTAGGTACTAAGGTTACCAAGAGGTTGTCAGA
CAGGGTTTGGCTGGGCCAGCAGAGACTTGACAACTCCCTCTACCTAACCAGCTGCCCAACTGTAGAACTACCAACCCACCG
ACCAACAGGGAGAGGGAACAAGCACCCCTCAAGGGGGTCAAGTTCTAGACCCCATGTAATAAAAGGTGGTTTCAAGGCCAGAT
GTACATTATTTTATTAAACCCTCACAATGCACTCTGTGAGGTAGGTGCAAATGCCAGCATTTCACAGATATGGGCCTTGAAGT
TAGAGAAAATTCAACAGTGAGGGACAGCTTCCCTGGTTAGTACGGTGAACTGGGGCCCCCTACCTAGAAATGTGGCTGATTGTAA
ACTAACCCTTAAGTGAAGAATTTCTTACATCTCCCAACATCCCTCACAGTAAAAACCTTAAATCTAAGCTGGTATGT
CCTACTCCCCATCCTCCTCCCCACAACAAAACACCAGTGACAGGCCAACTTGTTCAGTGAGCCCCGGGACAAAGCAAATGGA
AGTCCTGGGTGCTTCTGACGCACACCTATTGCAAGCAAGGGTTCAAAGACCCAAAAACCCAAAATGGCAGGGGAGGGAGAGAT
GGGGGTGGGAGGCTGTCACTGGGGAACAAGAAGTGGAGAATGTCACTCTGAGTCAGGCCCTTCTGTCTTGAACATGAGT
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GAGTGAGAGGGTCTGTGCCCTTTTCCCTGACCAATGCTTTGAAGGGCTTAAGGCTGGGACACACGGGAATTCAAATCAAGAT
GGTGGCCACACCCCATGCAAATATGTTTACTGAGCACCTCAGAGTATTAGTGTGTATTAGTCTCGTAATCTTCCCTTACCCC
ATTTTACTTTTATTTATCTTTTTTGGAGACGGAGTTTCACTCTTGTGCCCAGGCTGGAGTGTAAATGGTGAATCTCAGCTCAC
CGCAACCTCTGCCTCCCGGGTTCAAGCGATTCTCCTGCCTCAGCCTCCCGAGTAGGTAGCTGGGATTACAGGCATGCATCAC
CACGCCCCGCTACTTTTGTATTTTGTAGTAGAGATGGGGTTTCTCCATGTTGGTCAGGCTGGGCTCAAACCTCCCGACCTCAGG
TGATCCACTCGCCTTGGCCTCCCAGAGTGTGGGATTCGTGAGCCACTGCGCCCGGCCCTTACCCCATTTTATATATAAGG
AAACTGAGTTTGACGGGGGTACCTAGGACCTGCCGGTGCATGGCAGGGCTGAGTATATGACCTGAAACTCTGGCTGTATTC
AGTATTACACAATTATTAGGCCCTCCTTGAGACCTCCAGCTCTGGGCTGGGAGTTGCGGAGAATGGCAAAGAAGTATCCA
CACTCGTCCCTGGGTTTGGATGTTCTGTGGATACACTGAGGCAAGAATGTGGTTATAGGATTCACCCGGAGGAAGACTAAAA
AAATGTCCTGTGACGGGCTGGGACCCCAATGAGATGGGGTCAGCTGCCCTTGACCATGAAGGCAGGATGAGAATGGAATCCTAT
GGCTTTCCAACTAGGAAGGCAGGGGAGTAGGGCCAGGAAGGGGCTGAGGTCACTCACCTGGAGTGAGCCCTGCTCCCCCT
GGCTCCTTCCAGCCTGGGCATCCTTGAGTTCCAAGGCTCATTACAGTCTCGGAACATCTCGAAGCGCTCACGCCCACGGA
TCTGCAGCAACAGAGGAGGGGAGAAGTAAGTATATACACAGTACCTGAGTTAAAAGATGGTTCAAGTTACAATTGTTTAC
TTTATGACGGTACAAAAGCAACATGCATTTAGTAGAACTGCATTTCAAGTACCTATACAGCTGACTTTTAAAAATATTTAT
TTATTTATTTTGAATGGGGTCTCACTCTGTTGCCAGGCGGGAGTGCAATGGTGCAATCTTGGCTGATTGCAATCTCCGCC
TCTGGGGTTCAAGTGATTCTTGTGCCTCAGCTCCCGAGTAGCTGGGACTACAGGCGTGTGCTACCACACTGGCTAATTTT
TGTGTTTTTAGTAGAGATGGGGCTTACCATGTTAGCCAGGCTGGTTTTCCAACCTCCTGACGTCAGGTGATCTACCCACCTCC
ACCTCCCAAAGTGCTGGGATTACAGGTGTGAGCCACTGTGCCCGGCCCTTTTTTAAATTTTAGAGATGATGTCTTGCTATGT
TGTTCAAGCTGGACTCAAACCTTGGGCTCAAGAGATCCTCTGCCTTAGCCTCTCAAGTAACTGGGACTACATGTGCATGC
GACTGTCCCTCGTTCTTTCTTTTCTTTTCTGAGACGGAGTCTCACTCTATCGCCAGGCTGGAGTGCAATGGCGCCACTT
GGCTCCCTGCAACCTCCGCTCCTGGTTCAAGCGATTCTCCTGCCTCAGCTCAGCTCCCAAGTAGCTGGGATTACAGGCCTGCC
ATCACGCCCCGTTAATTTTTGTATTTTGTAGTAGAGACGGGGTTTACCATGTTGGCTAGGCTGGTCTTGAACCTCTGACCTCA
GGTGATCCACCCGCTCAGCCTCCCGAAATGCTGGGATTACAGGCGTGAGCCAGTGCGCCTGGCCTTTTCTTTTTTGTAGTC
TCGCTCTGCGCCAGGCTGTGCCTGGCTCGACTGTGCCTCCTTTTATGCAACCATGCTGTTTCTCACTTTTCAAGTAAATAT
TCAATAAATACATGAGATATACAACATTTTATTACTATAAAAAGGGCTTTGTGTTAGATGACTTTGCCCACTGTAGGGTA
ACTTAAATGCTCTGAACACGTTTCAAGTAGCTAGGGCTGAGTGTGGTAGCTCATGCCTGTAACCCCAATACTTGGGGAGGC
TGAGGTGGAAGGATTGATTGAGCCCAGGGGTTTGATACCAGCATGGGCAACGTAGCAAGACCTTGACTTCACAGAAAATAAA
AAATTAGCTGGGTGTCGTGGCATGTGCCTGTAGTCTAGCTACTTGGGAGGGTGAAATCACCGGAGCCAGGGAGGTCAAGG
CTGCAGTGAGCTGAGATGGTGCCACTGCACTCTAGCCTGAGTGACAGAGTGAGACTCTGTCTTTAAATAAATAAATAAAT
TAGCCGGGCGTGGTGGCTCACACCTGTAATCCAGCACTTTGGGAGGCCAGGCGGGCGATCACATGGTCAGAAGTTCGAG
ACCAGCCTGGCCAAACATGGTGAAACCCCTGTCTCTACTAAAAATACAAAAATTAGCTGGGCGTGGTAGCAGGCGCTTGTAGTC
CTAGCTATTCCGGGAGGCTGAGGCAGGAGAATCACTTGAACCCAGGAGGCAGAGGTGTCAGTGAGCCGAGATCATGCCACTGC
ACTCCAGCCTGGGCGACAGAGTGAGACTGAGTCTCAAAAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAAT
CAGGCATGGTGGTGACAGGCTGTAGTTGAAGCAACTTTGGGAGGCTGAGCTGGGAGGATGGATGGAGCCTGGGAGGTGGAGGC
TGCAGTGAGCTGTGACTGCACTACTGCACTCTATCCAGCCTGGGTGACAGAGCAAGACCTTGTCTCAAAAAAGTAGGCTAGA
GACCAGCCTGGGCAACATAGTGAGACTCTATCTATCTACAAAAATTTTAAAAATTAGCTGGGTATGGTGGTGTATGCCTGT
GGTCTAGCTACTGGGGAGGCAGAGTTAGGGGGATTGCTTGAGCCCAGGAGGGTATAATGAGCTATGATCACATCACTGTAA
TCCAGCCTGGGCAACAGAGCAAGATGCTGTCTCCATTAAAAATAAATAAATAAAGTAGGCTAGGCAGGCCGGGTGCGGTGGCTC
ACGCCGTGAATCCAGCACTTTGGGAGGCCAAGGCAGGCAGATCACAAGGTGAGGAGTTCGAGACTAGCCTGGCCAAACATGG
TGAACCTCATCTCTACTAAAAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAA
GCTACTCAGTGGGTGAGGCAGGAGAATCGCTTGAACCCAGAAGGCGGAGGTTGTCAGTGAGCCGAGATCCCGCCACTGCACT
CCAGCCTGGGTGACAGAGTGAGACTCTGTCTCCAAAAAATAAATAAATAAATAAAGCAGGCTAGGCTAAGCTATGATGTTCTT
GATTAGGTGATTAATCCATTTTCAACTTACAATATTTTCAACTTACGACGAGTTTATCAGGAAGTAACACCATCGTAAGT

Exon 11

Exon 10

TP53 tumor protein p53 [Homo sapiens (human)]
NC_000017.11 Chromosome 17 Reference GRCh38.p2 Primary Assembly
Positive Strand, exons only (not entire sequence)

TP53_e7.2	CAAGTAGCATCTGTATCAGGCAAAGTCATAGAACCATTTTCATGCTCTCTTTAACAATTTTCTTTTTGAAAGCTGGTCTGGT	Exon 9
TP53_e7.1	CCTTTAAAAATATATATTATGGTATAAGTTGGTGTCTGAAGTTAGTTAGCTACAACCAGGAGCCATTGTCTTTGAGGCATCA	Exon 8
TP53_e6.2	CTGCCCCCTGATGGCAAATGCCCAATTGCAGGTA AAAACAGTCAAGAAGAAAA CGGCATTTT GAGTGTTAGACTGG AAAC TT	
TP53_e6.1	TCCACTTGATAAGAGGTCCCAAGACTTAGTACCTGAAGGGTGAAATATTCTCCATCCAGTGGTTTCTTCTTTGGCTGGGGAG	
TP53_e5.1_1	AGGAGCTGGTGTGTGTTGGGCAGTGC TAGGAAAGAGGCAAGGAAAGGTGATAAAAGTGAATCTGAGGCATAACTGCACCCTTG	
TP53_e5.1	GTCTCCTCCACCGCTTCTTGTCTGCTTGCTTACCTCGCTTAGTGCTCCCTGGGGGCAGCTCGTGGTGAGGCTCCCCCTTTCT	Exon 7
TP53_e4.3_1	TGCGGAGATTCTCTTCTCTGTGCGCCGGTCTCTCCAGGACAGGCACAAACACGCACCTCAAAGCTGTTCCGTCCTCCAGTAG	
TP53_e4.3	ATTACC ACTACTCAGGATAGGAAAAGAGAAGCAAGAGGCAGTAAGGAAATCAGGTCTACCTGTCCCATTAAAAAAC CAGG	
TP53_e4.2	CTCCATCTACTCCCAACCACCCTTGTCTTTCTGGAGCCTAAGCTCCAGCTCCAGGTAGGTGGAGGAGAAAG CCACAGGGTTAA	
TP53_e3.3	GAGGTCCCAAAG CCAGAGAAAAGAAAAC T GAGTGGGAGCAGTAAGGAGATTCCCCGCCGGGGATGTGATGAGAGGTGGATGG	
TP53_e3.2	GTAGTAGTATGGAAGAAATCGGTAAGAGGTGGGCCCAGGGGT CAGAGGCAAGCAGAGGCTGGGGCACAGCAGGCCAGTGTGC	
TP53_e3.1	AGGGTGGCAAGTGGCTCCTGACCTGGAGTCTTCCAGTGTGATGATGGTGAGGATGGGCCTCCGGTTCATGCCGCCCATGCAG	
TP53_e2.3	GAACTGTTACACATGTAGTTGTAGTGGATGGTGGTACAGTCAGAGGCCAACCTAGGAGATAACACAGGCCCAAGATGAGG CCA	
TP53_e2.2	GTGCGCCTTGGGGAGACCTGTGGCAAGCAGGGGAGGCCCTTTTTTTTTTTTTTTT GAGATGGAATCTCGCTCTGTCTGCCCAGG	
TP53_e2.1	CTGGAGTGCAGTGGCGTGATCTCAGCTCACTGCAAGCTCCACCGCCAGGTTTCACGCCATTCTCCTTCCTCAGCCTCCCGAG	
TP53_e1.1	TAGCTGGGACTACAGGTGCCCAGCACCACGCCCGCTAATTTTTTTTTTTGTATTTTTCAGTAGAGACGGGGTTTACCCGTTAG	
TP53_e1.1	CCAGGATGGTCTCGATCTCCCAACCTCGTGATCCGCCTGCCTTGGCCTCCCAAAGTGCTGGGATTACAGGCATGAGCCACTG	
TP53_e1.1	CGCCCAGCCAAGCAGGGGAGGCCCTTAGCCTCTGTAAGCTTCAGTTTTTTTCAACTGTGCAATAGTTAAACCCATTTACTTTG	
TP53_e1.1	CACATCTCATGGGGTTATAGGGAGGTCAAATAAGCAGCAGGAGAAAGCCCCCTACTGCTCACCTGGAGGGCCACTGACAAC	Exon 6
TP53_e1.1	CACCCTTAACCCCTCCTCCAGAGACCCAGTTGCAAACCAGACCTCAGGCGGCTCATAGGGCACCACCACACTATGTCGAA	Exon 5
TP53_e1.1	AAGTGTTCCTGTCATCCAAATACTCCACACGCAAAATTTCTTCCACTCGGATAAGATGCTGAGGAGGGGCCAGACCTAAGAG	
TP53_e1.1	CAATCAGTGAGGAATCAGAGGCCTGGGGACCCTGGGCAACCAGCCCTGTCGTCTCTCCAGCCCCAGCTGCTCACCATCGCTA	
TP53_e1.1	TCTGAGCAGCGCTCATGGTGGGGGACGCGCTCACAACCTCCGTCTGCTGTGACTGCTTGTAGATGGCCATGGCGCGGA	
TP53_e1.1	CGCGGGTGCCGGCGGGGGTGTGGAATCAACCCACAGCTGCACAGGGCAGGCTCTTGGCCAGTTGGCAAAACATCTTGTGTAG	
TP53_e1.1	GGCAGGGGAGTACTGTAGGAAGAGGAAGGAGACAGAGTTGAAAGTCAGGGCACAAGTGAACAGATAAAGCAACTGGAAGACG	
TP53_e1.1	GCAGCAAAGAAACAAACATGCGTAAGCACCTCCTGCAACCCACTAGCGAGCTAGAGAGAGTTGGCGTCTACACCTCAGGAGC	
TP53_e1.1	TTTTCTTTTTTTTTTTTTTTTTTTTGTAGATAGGGTCTTGCTCTGTCACTCAGGCTGGAGCACAGTGGTGTGATCACAGCTCACT	
TP53_e1.1	GCAGCCTCCATCTCCTGGCCTCAAGTGATCTTCCACCTCAGCCTCCTAAGTGGCTGGGACTATAGGTGTGACACCACCATGC	
TP53_e1.1	CTGGCTAATTTTTTTGTATTTTTTTGTAGAGACGAGGTTTCATCATGTTACCCAGGCTGGTCTTGAACCTCTGGGCTCAGGTG	
TP53_e1.1	ATCTGCCTGCCTTGGCCTCTTTGAGAGTGCTGGGATTGCAGGTGTGAGCCACCAAGCCTGGTCAGGAGCTTATTTTCAAAAG	
TP53_e1.1	CCAAGGAATACACGTGGATGAAGAAAAAGAAAAGTTCTGCATCCCCAGGAGAGATGCTGAGGGTGTGATGGGATGGATAAAA	
TP53_e1.1	GCCCAAATTAAGGGGGGAATATTCAACTTTGGGACAGGAGTCAGAGATCACACATTAAGTGGGTAAACTATAAAAAAACAC	
TP53_e1.1	TGACAGGAAGCCAAAGGGTGAAAGGAATCCCAAGTTCCAAACAAAGAAATGCAGGGGATACGGCCAGGCATTTGAAGTC	
TP53_e1.1	TCATGGAAGCCAG CCGCTCAGGGGAACTGACCGTGCAAGTCACAGACTTGGCTGTCCCGAATGCAAGAGCCGACGAGGAA	
TP53_e1.1	ACCGTAGCTGCCCTGGTAGGTTTTCTGGGAAGGGACAGAAGATGACAGGGGCCAGGAGGGGGCTGGTGCAGGGGCCGCCGGT	Exon 4
TP53_e1.1	GTAGGAGCTGCTGGTGCAGGGGCCACGGGGGAGCAGCCTCTGGCATTTCTGGGAGCTTCATCTGGACCTGGGTCTTCAGTGA	
TP53_e1.1	ACCATTGTTCAATATCGTCCGGGGACAGCATCAAATCATCCATTGCTTGGGACGGCAAGGGGGACTGTAGATGGGTGAAAAG	
TP53_e1.1	AGCAGTCAGAGGACCAGGTCTCAGCCCCCAGCCCCCAGCCCTCCAGGTCCCCAGCCCTCCAGGTCCCCAGCCCCAACCT	Exon 3
TP53_e1.1	TGTCCTTACCAGAACGTTGTTTTTCAGGAAGTCTGAAAGACAAGAGCAGAAAGTCAGTCCCATGGAATTTTCGCTTCCCACAG	
TP53_e1.1	GTCTCTGCTAGGGGGCTGGGGTTGGGGTGGGGTGGTGGGCCTGCCCTTCCAATGGATCCACTCACAGTTCCATAGGTCTG	Exon 2
TP53_e1.1	AAAATGTTTCTTGACTCAGAGGGGGCTCGACGCTAGGATCTGACTGCGGCTCCTCCATGGCAGTGACCCGGAAGGCAGTCTG	
TP53_e1.1	GCTGCTGCAAGAGGAAAAGTGGGGATCCAGCATGAGACACTTCCAACCTGGGTACCTGGGCCTGCAGAGAAGGAACCCCC	
TP53_e1.1	TCCCCAACACCATGCCAGTGTCTGAGACAGCTCGGCTTCCTGTGGAGCAGGAAAAGAATGGCTGCTTCACATTCTCTCTTC	
TP53_e1.1	CAATGTTTTACCACAACCCAGCACTCCTGCCCCACCCCTCACCAGCCATGCACCTTCTTTGAGGAAAAGACAATCAGAGAGG	
TP53_e1.1	GACTTCCAACCTTCCCACCCTAAATCCCCAAGACTT CCTAAATGTGCACCCTATTCCCCA ACTCCCTTCTGTATTTTTTTTT	
TP53_e1.1	TTTTTTTTGAGATGGAGTCTCTCTCTGTCACTAGGCTGGAGCACAGTGGCATGATCTCAGCTCACTGCAACCTCTACCTTC	
TP53_e1.1	CGGGTTCAAGCCATTCTCTGCCTCAGTCTCCCGAGTAGCTGGGATTACAGGCGAGTACCACCACACCAGCTAATTTTTTGT	
TP53_e1.1	ATTTTTAGTAGAGACAGGGCTTTGCATGTTGGCCAGGCTGGTCTCGAACTCCTTACTTCAGGTGATCGGCCCGCCTCAGCCT	
TP53_e1.1	CCTAAAGTGCCAAGATTACAGGTGTGAGCTACCGTGCCCTGCTCCCACCTCCTGTAAACAAGGATATAGTCATTCTCAGCCT	
TP53_e1.1	GCAATCTCTGTATGGGGAAGGACACCCCTTGGCCCCCACCCTTCCCCACCTGATACACGGCTCCATTCTTTGATTCTCTTT	
TP53_e1.1	CACTGCAAAGCTTCTGGAAGAACAACGTCTCACCGCTCACCTGCCCATTCTCTTCGGACACTCCTCAGCCCTGCATTACAA	
TP53_e1.1	ACCCCTCACGAATGGCCCGTCTCGGCTTCTTTAATCTCATCTCTTAACAACCACTCCCTCTTCCCCAAAAGCTCTAGCTAGA	
TP53_e1.1	CTGGCTGCCCTTCTCTGCTAATCAACTGGTGGTTCCTTGGCTAGCCAGGAACATGGGGTAGGCTCCTTCCCGTGCAGACTT	
TP53_e1.1	...	

Geneblock fragment- 500bp with all of the gRNA target sequences.

GCTGAGTGTGGGCCCTACCTAGAATG**TGG**GACGGAGTCTCACTCTAATTCCCGTTGTCCCAGCCTT**AG**
GCCCAGGCTGGAGTGCAGTGGTTATAGGATTCAACCGG**AGG**CGCCATCTTGGCTCCCTCTGATTGCAAT
CTCCGCCTC**TGG**ACCTCCGCCTCCTGGTTCGGCATTGAGTGTTAGAC**TGG**GATTCTCCTGCCTCAGCCT
TTGGGACCTCTTAACCTG**TGG**CCAAGTAGCTGGGATTACAGGTCTCCCCAAGGCGCACT**TGG**GCACCTGC
CATCACGCCGCACATCTCATGGGGTTATA**GGG**GTAGAGACGGGGTTTCA**CAGGGG**AGTACTGTAGGAA
GAGGTGTTGGCTAGGCTGGTCTGCACGGTCAGTTGCCCTGA**GGG**AACTCCTGACCTCAGGTATGGAATT
TTCGCTTCCCAC**AGG**TCAGCCTCCCGAAATGCTGGGAATAGGGTGCACATTT**AGG**GTGGTAGCTCATGC
CTGTAACCCCAATGTC

Spacer Sequences 17bp (from intronic area DS of TP53 exon 10)

GACGGAGTCTCACTCTA
CCCAGGCTGGAGTGCAG
CGCCATCTTGGCTCCCT
ACCTCCGCCTCCTGGTT
GATTCTCCTGCCTCAGC
CCAAGTAGCTGGGATTA
GCACCTGCCATCACGCC
GTAGAGACGGGGTTTCA
TGTTGGCTAGGCTGGTC
AACTCCTGACCTCAGGT
TCAGCCTCCCGAAATGC

Beginning spacer sequence (7bp):

GCTGAGT

Ending spacer sequencer (30bp):

GTGGTAGCTCATGCCTGTAACCCCAATGTC