

Supplementary File 2 Plasmid DNA sequences of vectors used in the second targeted THOR demethylation approach.

pPlatTET-gRNA2 plasmid cloned with guide 5

pTET-gRNA-S5684 forward primer:

5'-CATAAAATGAATGCAATTGTTGTTG-3'

GACRYWMTGTAAAGWTGMGCTTATATGGTTACAAATAAAGCAATAGCATCA
CAAATTTACAAATAAAGCATTCTTTTCACTGCATTCTAGTTGTGGTTTGTCC
AAACTCATCAATGTATCTTGGCGCGCCTGTACAAAAAAGCAGGCTTTAAAGG
AACCAATTCAGTCGACTGGATCCGGTACCAAGGTCGGGCAGGAAGAGGGC
CTATTTCCCATGATTCCTTCATATTTGCATATACGATACAAGGCTGTTAGAGA
GATAATTAGAATTAATTTGACTGTAAACACAAAGATATTAGTACAAAATACGTG
ACGTARAAAGTAATAATTTCTTGGGTAGTTTGCAGTTTTTAAAATTATGTTTTAA
AATGGACTATCATATGCTTACCGTAACTTGAAAGTATTTTCGATTTCTTGGCTT
TATATATCTTGTGGAAAGGACGAAACACC**GCGAATCGGCCTAGGCTGTGGT**
TTTAGAGCTAGAAATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAACTTGAA
AAAGTGGCACCGAGTCGGTGCTTTTTTTCTAGACCCAGCTTTCTTGTACAA
AGTTGGCATTAGGCGCGCCAAGGCGTAAATTGTAAGCGTTAATATTTTGTTA
AAATTCGCGTTAAATTTTTGTTAAATCAGCTCATTTTTTAACCAATAGGCCGA
AATCGGCAAATCCCTTATAAATCAAAGAATAGACCGAGATAGGGTTGAGT
GTTGTTCCAGTTTGAACAAGAGTCCACTATTAAAGAACGTGGACTCCAAC
GTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGGCCCACTACGTGAACC
ATCACCTAATCAAGTTTTTTGGGGTCGAGGTGCCGTAAGCACTAAATCGG
AACCTAAAGGGAGCCCCGATTTAGAGCTTGACGGGAAAGCCGGCGAACG
TGGCGAGAAGGAAGGGAAGAAGCGAAGGAGCGGGCGCTAGGCGCTGGC
AGTGTAGCGGTCACGCTGCSCGTACCACCACACCCGCCGCGCTTATGCGC
GCTACAGGGCGCGTCAGKKGCACTTTTCGGAAATGTGCGCGGACCCTATTT
GTTATTTTTTCTAATCATTCAATATGTATCGCTCATGARACATAGCTGATAATG
CTCATATATGAAAGGAGGTCTGAGGCGAGAACGCTTGAKCGTCAGTTAGGT
TGCAAGTCCAGGCTTCCCAGCAGGGCAG

pPlatTET-gRNA2 plasmid cloned with guide 7

pTET-gRNA-S5684 forward primer:

5'-CATAAAATGAATGCAATTGTTGTTG-3'

AAGGTSGGATTKTGCCTTAAATGMGCTTATATGGTTAAAATAAAGCAATAGCA
TCACAAATTTACAAATAAAGCATTCTTTTCACTGCATTCTAGTTGTGGTTTG
TCCAAACTCATCAATGTATCTTGGCGCGCCTGTACAAAAAAGCAGGCTTTAA

AGGAACCAATTCAGTCGACTGGATCCGGTACCAAGGTCGGGCAGGAAGAG
GGCCTATTTCCCATGATTCCTTCATATTTGCATATACGATACAAGGCTGTTAG
AGAGATAATTAGAATTAATTTGACTGTAAACACAAAGATATTAGTACAAAATAC
GTGACGTAGAAAGTAATAATTTCTTGGGTAGTTTGCAGTTTTAAAATTATGTT
TAAAATGGACTATCATATGCTTACCGTAACTTGAAAGTATTTTCGATTTCTTGG
CTTTATATATCTTGTGGAAAGGACGAAACACC**GCCCTGGGAACAGGTGCGT**
GGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAACTT
GAAAAAGTGGCACCAGTCGGTGCTTTTTTTCTAGACCCAGCTTTCTTGTA
CAAAGTTGGCATTAGGCGCGCCAAGGCGTAAATTGTAAGCGTTAATATTTTG
TAAAATTCGCGTTAAATTTTTGTAAATCAGCTCATTTTTTAACCAATAGGCC
GAAATCGGCAAAATCCCTTATAAATCAAAGAATAGACCGAGATAGGGTTGA
GTGTTGTTCCAGTTTGGAAACAAGAGTCCACTATTAAAGAACGTGGACTCCA
ACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGGCCCACTACGTGAA
CCATCACCTAATCAAGTTTTTTGGGGTCGAGGTGCCGTAAAGCACTAAATC
GGAACCTAAAGGGAGCCCCCGATTTAGAGCTTGACGGGAAAGCCGGCGA
ACGTGGCGAGAAAGGAAGGGAGAAGCGAAAGGAGCGGGCGCTAGGGCG
CTGGCAAGTGTAGCGGTCACGCTGCGCGTAACCACCACACCCGCCGCGC
TAATGCGCCGCTACAGGCGCGTCAGTGCACTTTCGGGAAATGTGCGCGAC
CCTATTGTTATTTTCTAATACATCAATATGTATCCGCTCATGAACATACCTGAA
TAAATGCTCATAATATTGAAAAAGCATAGTCCTGAGCGACGACRCKTGACTG
TGTTTCAGTAGGGGKGTGAAGGTTCCCAAGT

Inactive mutant plasmid IN_MO cloned with guide 5

pTET-gRNA-S5684 forward primer:

5'-CATAAAATGAATGCAATTGTTGTTG-3'

AAKTACCACAWYATGTAAATGMGCTTATAATGGTTACAATAAAGCAATAGCAT
CACAAATTTACAAATAAAGCATTTTTTTTCACTGCATTCTAGTTGTGGTTTGT
CCAACTCATCAATGTATCTTGGCGCGCCTGTACAAAAAAGCAGGCTTTAAA
GGAACCAATTCAGTCGACTGGATCCGGTACCAAGGTCGGGCAGGAAGAGG
GCCTATTTCCCATGATTCCTTCATATTTGCATATACGATACAAGGCTGTTAGA
GAGATAATTAGAATTAATTTGACTGTAAACACAAAGATATTAGTACAAAATACG
TGACGTAGAAAGTAATAATTTCTTGGGTAGTTTGCAGTTTTAAAATTATGTTTT
AAAATGGACTATCATATGCTTACCGTAACTTGAAAGTATTTTCGATTTCTTGGC
TTTATATATCTTGTGGAAAGGACGAAACACC**GCGAATCGGCCTAGGCTGTG**
GTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAACTTG
AAAAAGTGGCACCAGTCGGTGCTTTTTTTCTAGACCCAGCTTTCTTGTA
AAAGTTGGCATTAGGCGCGCCAAGGCGTAAATTGTAAGCGTTAATATTTTGT
TAAATTTCGCGTTAAATTTTTGTAAATCAGCTCATTTTTTAACCAATAGGCCG
AAATCGGCAAAATCCCTTATAAATCAAAGAATAGACCGAGATAGGGTTGAG
TGTTGTTCCAGTTTGGAAACAAGAGTCCACTATTAAAGAACGTGGACTCCAA
CGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGGCCCACTACGTGAAC
CATCACCTAATCAAGTTTTTTGGGGTCGAGGTGCCGTAAAGCACTAAATC

GGAACCCTAAAGGGAGCCCCCGATTTAGAGCTTGACGGGGAAAGCCGGC
GAACGTGGCGAGAAAGGAAGGAAGAAGCGAAAGGAGCGGGCGCTAGGGC
GCTGGCAGTGTAGCGGTACGCTGCGCGTACCACCACACCGCGCGCTTAT
GCGCGCTACAGGCGCGTCAGGTGCACTTTTCGGAATGTGCRCGACCCTAT
TGTTATTTTTCTATACATTCAATATGTATCGCTCATGAAACAATACCTGATATGC
TCATACTTGGAAGACAGTCTGAGCGCAAGACCAGCTKGCCATGTGTTTCA
GTTAAGGCCA

Inactive mutant plasmid IN_MO cloned with guide 7

pTET-gRNA-S5684 forward primer:

5'-CATAAAATGAATGCAATTGTTGTTG-3'

CCAMMTGTAAAATGMGCTTATATGGTTACAATAAAGCAATAGCATCACAAATT
TCACAAATAAAGCATTTTTTTTCACTGCATTCTAGTTGTGGTTTGTCCAAACTC
ATCAATGTATCTTGGCGCGCCTGTACAAAAAGCAGGCTTTAAAGGAACCA
ATTCAGTCGACTGGATCCGGTACCAAGGTCTGGGCAGGAAGAGGGCCTATT
TCCCATGATTCCCTTCATATTTGCATATACGATACAAGGCTGTTAGAGAGATAA
TTAGAATTAATTTGACTGTAAACACAAAGATATTAGTACAAAATACGTGACGTA
GAAAGTAATAATTTCTTGGGTAGTTTGCAGTTTTAAATTTATGTTTTAAATGG
ACTATCATATGCTTACCGTAACTTGAAAGTATTTTCGATTTCTTGGCTTTATATAT
CTTGTGGAAAGGACGAAACACC**GCCCTGGGAACAGGTGCGTG**GTTTTAGA
GCTAGAAATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAACTTGAAAAAGT
GGCACCGAGTCGGTGCTTTTTTTCTAGACCCAGCTTTCTTGTACAAAGTTG
GCATTAGGCGCGCCAAGGCGTAAATTGTAAGCGTTAATATTTTGTAAAATTC
GCGTTAAATTTTTGTTAAATCAGCTCATTTTTTAACCAATAGGCCGAAATCGG
CAAAATCCCTTATAAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTTGTT
CCAGTTTGAACAAGAGTCCACTATTAAAGAACGTGGACTCCAACGTCAA
GGGCGAAAAACCGTCTATCAGGCGATGGCCCACTACGTGAACCATCACCC
TAATCAGTTTTTTGGGGTCGAGGTGCCGTAAGCACTAAATCGAACCTAAA
GGGAGCCCCCGATTTAGAGCTTGACGGGAAGCCGGCGAACGTGGCGAGA
AAGGAAGGGAAGAAAGCGAAAGGAGCGGGCGCTAGGCGCTGGCAAGTGT
AGCGGTACGCTGCGCGTACCACCACACCCGCCGCGCTTAATGCGCGCT
ACAGGCGCGTCAGTGCACTTTTCGGAATGTGCGCGAACCCCTATTTGTTTAT
TTTCTATWMGTCAAWTGTATCGCTCATGAAMATAGCTGATAATGCTCATAATT
GAAGGCAAGTCCTGAGGCGAAGACGCTKGATGGTCATAGGTGGCAGTCAA
GCTCCAACAGCGA