

**Supplementary information Table 2. The primers used in this work**

Genomic DNA primers were designed to specifically amplify ~450 bp DNA fragments flanking each target site. Primers MCPH1-1F/R were used to amplify the MCPH1-T1 target site; primers MCPH1-2F/R were used to amplify the MCPH1-T2 and MCPH1-T3 target sites; and WT -test -F/R were used to amplify the wild-type allele.

Genomic DNA primers	MCPH1-1F	AATCCCTGACTTCGTGGATCCACCTG
	MCPH1-1R	ACTCAATGCCACAGGCCAACTG
	MCPH1-2F	AGCAGTGTATGCATTCTCGAGT
	MCPH1-2R	TAGGTATTACAGTACGCCATGTTT
WT primers	WT -test -F	TCTTCAAAGATGGCTACCAGAGCAC
	WT -test -R	TCTGTGATCTGTGCAAAATATCTCCA
Off target DNA primers	intron mcph1-off 1F	TACTCATGGTCACTTCCTGACCTGTT
	intron mcph1-off 1R	TAACCTATGTGTAGCCTCTGTCTGAG
	intron mcph1-off 2F	AGCCTCTGAATACTCTAGGCTTGTCTCCA
	intron mcph1-off 2R	AATTCCCTGCAGGTGAGACTAGGTATAT
	intron mcph1-off 3F	ACAATCCAAGTTCAAACTCATCAAC
	intron mcph1-off 3R	AACTCAGGTCTGGTCTGACACTAGA
	intron mcph1-off 4F	TGTTCATATTATGGAGAAGGAATTGAGTGG
	intron mcph1-off 4R	ACAATCGCTTACTGCTGGACTAGTAA
	intron mcph1-off 5F	ACGCATTATACTTTATACCTGTG
	intron mcph1-off 5R	ATAGACACATCATGGTCAATTGATAAA
	intron mcph1-off 6F	TCACACTCTCCTGATAAAAGTGAAACATT
	intron mcph1-off 6R	TCCAGCCACTTATTACAAGAGTAGTA
	intron mcph1-off 7F	CCCTTGGAGAGGACCTTGACTTCAGG
	intron mcph1-off 7R	TGGGGCTGAGCTCAACTGATCAAAC
	intron mcph1-off 8F	GGAGAGACTGAACAATTGTGTGAAGAGGA
	intron mcph1-off 8R	TGAAGAAATGGGAATGCTGCACGAGACA
	intron mcph1-off 9F	AATCTAAATGTCAGTCTTCGTTGT

	intron mcph1-off 9R	TATACAAATGCATTCGTGCTGAAGCGAAC
	intron mcph1off 10F	AACCTGGGCTTCTTCAGCTTCCTATT
	intron mcph1-off 10R	AACAAACCTATGAGTTGTATTCACTCACT
	intron mcph1-off 11F	TTGTTGAATAACAAATGCTAAACAC
	intron mcph1-off 11R	CCAATCTGAATGTTTGTTGCTTAG
	intron mcph1-off 12F	ACAGGCCACACCTGCTTGTAACTCTTGG
	intron mcph1-off 12R	TTACACAGTTTAACTATAGCCATCTT
	intron mcph1-off 13F	AGATCATCGTTAACTATAGTCATTCTA
	intron mcph1-off 13R	CAAAGGTAGTTCTCTAAAGAAAATGTGTA
	exon mcph1-off 1R	TTCTTCAAGAACTTCAGAAATT
	exon mcph1-off 2F	TCTTAAGAAAACTCTGAAGGAAAC
	exon mcph1-off 3F	TTCAGCACCTGTTGATTCACTAT
	exon mcph1-off 3R	AATCTCTTGTGGATTGTTGTAC
	exon mcph1-off 4F	TGCTGGAAAGGAAGAAACTCAT
	exon mcph1-off 4R	ACTCGTGCACCTAAACGTATCAGTT
	exon mcph1-off 5F	TTTATGATGGCTCGGCAGTACAGTC
	exon mcph1-off 5R	GGCGTGTCAAGTGTCTCACAG
	exon mcph1-off 6F	CTTGTCCCTGCAGGTGTAGCAAT
	exon mcph1-off 6R	CCATCTGTCCCCATGAGAAGCTGCAT
	exon mcph1-off 7F	GTCTATGAAGTACACGATTCAAGATG
	exon mcph1-off 7R	AGCTCATTATCTCCAGAAATAAGA
	exon mcph1-off 8F	TTCAGGTATACTCATTGTTGCTCAT
	exon mcph1-off 8R	CCAGATCCACTCCTACCAGAAACC
	exon mcph1-off 9F	GATAATTCACCCCTAACAGCACACAAT
	exon mcph1-off 9R	TGATAAAACTCTGTTGATGCATATCT
	exon mcph1-off 10F	TGACAGGCAATGGAAACATTGCTA
	exon mcph1-off 10R	CAAGCACAAATGCTAGAAACGAGAG
	exon mcph1-off 11F	CGATCTGGCCACCGCTCATCCCACCTTT
	exon mcph1-off 11R	TGGAGTCAATCACACCCACTGTCTTGA
	exon mcph1-off 12F	TGAGTGAAAGTCTACTCTGAATGATATC

	exon mcph1-off 12R	TATGAACTAAAAGGCCAAGCCAACAA
	exon mcph1-off 13F	ACAATACTCCCACGCCATGAAGCACTT
	exon mcph1-off 13R	CAGATGCACAGTGTATTGAAAGCA
	exon mcph1-off 14F	TCAGGAGAGAACATGACTTCATTGGCC
	exon mcph1-off 14R	TTTATTGATTTCTACCAGTGTAA
	exon mcph1-off 15F	CTCTAGGTAAAATATTACCTGCGTTTAGTA
	exon mcph1-off 15R	CACCAAAATAGTAAGTTAAAAATAAGC
	exon mcph1-off 16F	TTCCGCCCTCCTCAGTACTTGAAAC
	exon mcph1-off 16R	TATGGAACATTCCACCACTGCAGA
	exon mcph1-off 17F	ATTTTGATGACTTGTAAAGACTTGGCTT
	exon mcph1-off 17R	CCATATTCCCTCTCGTTGAGTGACAGT
	exon mcph1-off 18F	TGGTGACTGAAGACACCTCAAGGGTT
	exon mcph1-off 18R	CAGCAGTGAGAGTGATTCCCCTTCTC