

**Table S1. Summary of targeted CpGs in candidate genes.**

Primers for targeted CpGs in each gene, excluding RARB, were supplied by commercial companies. Thus, the primers for APC (product code #ASY516), BMP4 (#ADS1490), CALCA (#ADS1489), CDH13 (#ADS1461), CDKN2B (#ADS708), CHFR (#ADS1462), DAPK1 (#ADS040), ESR1 (#ADS076), H19 (#ADS596), IGF2 (#ADS1051), and RASSF1 (#ASY574) were supplied by EPIGENDX (Hopkinton, MA, USA), while those for TP73 (#ADS658), CDKN2A (#972012), MGMT (#972032), and MLH1 (#972022) were supplied by QIAGEN. PCR primers and the sequencing primer for the CpGs of RARB were as reported by Shaw et al. The sequence informations of targeted CpGs in candidate genes were summarized as bellow.

Green highlighted **G** is the transcriptional start site.

Yellow highlighted **ATG** is the translational start site.

Gray highlighted **CGs** are covered and assessed.

**APC**

ENSG00000134982

-187 to -47 from transcription starting site (TSS)

cggttgggCGGGCCCTGTGCCCCACTGCGGAGTGCGGGTCGGGAAGCGGAGAGAGAAGCAGCTGTGTAATCC  
 GCTGGATGCGGACCAGGGCGCTCCCCATTCCCGTCGGGAGCCCGCCGATTGGCTGGGTGTTGGGCGCACGTGACC  
 GACATGTGGCTGTATTGGTGCAGCCCGCAGGGTGTCACTGGAGACAGAATGGAGGTGCTGCCGGA  
 CTCGGAAATGGG

**BMP4**

ENSG00000125378

-317 to -152 from TSS

CGGCGACTAGTCGGTGCATGCTTCTAGTACCTCCGCACGTGGTCCCAGGTGAGCCCCAGCCGCTCCAGAGCT  
 GGAGGCAGCGGCGTCCAGCTCCGACGGCAGCTGCGGACTCGGGCGCTGCCTGGGCTCCGGGACCCGGGCC  
 TGCTAGGCGAGGTGCGGGCGGCTGGAGGGGAGGATGTGGGCGGGGCTCCCATCCCAGAAAGGGAGGCGAGC  
 GAGGGAGGAGGGAAGGAGGGAGGGGCCCGGGGAAGAGGAGGAGGAAGGAAAGAAAGAAAGCGAGGG

agggaaaggaggaggaaggaagatgcgagaa**G**GCAGAGGAGGAGGGAGGGA

**CALCA**

ENSG00000110680

-331 to -78 from TSS

cgccaaatcggtgaaaccaggggtggagtgggg**g**cgaggggtcaaaaccaggccgggactgagaggtgaaattcac  
catgacgtcaaactgccctcaaattccc**g**ctcactttaagg**g**cgttactgttggtgccccaccatccccaccattt  
ccatcaatgacctcaatgcaaatacaagtg**g**gacgggtcctgctggatcctccaggttctggaagcatgagggtgac  
gcaaccaggggcaaaggaccctcc**g**cccattggttgctgtgactggcggaactttcccaccacagcggg  
gggaataagagcagtcgctggcgctggga**G**GCATCAGAGACACTGC

**CDH13**

ENSG00000140945;

-266 to -144 from start codon

CGTGATTTGTGAGGCTGAGCCCAACAGTCCAAGAAGCAAATGGGATGCCACCT  
CCGCGGGGCTCGCTCCTCGCGAGGTGCTCACCCG**T**ATCTGCCATGCAAAACGAG  
GGAGCGTTAGGAAGGAATCCG**T**CTTGTAAGCCATTGGTCCTGGTCATCAGCCTCT  
ACCCAATGCTTTCG**T**GATGCTGCTGCTGATCTATTTGGGAAGTTGGCTGGCTGGCG  
AGGCAGAGCCTCTCCTCAAAGCCTGGCTCCCACGGAAAATATGCTCAGTGCAGCC  
GCGTGCATGAATGAAAACGCCGCCGGGCGCTTCTAGTCGGACAAA**ATG**CAGCCGA  
GAACTCCGCT

**CDKN2A**

ENSG00000147889

-64 to -39 from start codon

CGGACCGCGTGC**G**CTCGGCGGCTGCGGAGAGGGGGAGAGCAGGCAGCGGGCGG  
CGGGGAGCAGC**ATG**GAGCCGGC

**CDKN2B**

ENSG00000147883

-318 to -141 from start codon

CGAGGCGGGGCAGTGAGGACTCCGCGACGCGTCCGCACCCTGCGGCCAGAGCGG  
CTTTGAGCTCGGCTGCGTCCGCGCTAGGCGCTTTTTCCCAGAAGCAATCCAGGCGC  
GCCCGCTGGTTCTTGAGCGCCAGGAAAAGCCCGGAGCTAACGACCGGCCGCTCGG  
CCTACTGCACGGGGCCCAAGCCGCGAGAAGGACGACGGGAGGGTAATGAAGCTGA  
GCCCAGGTCTCCTAGGAAGGAGAGAGTGCGCCGGAGCAGCGTGGGAAAGAAGGG  
AAGAGTGTGTTAAGTTTACGGCCAACGGTGGATTATCCGGGCCGCTGCGCGTCTG  
GGGGCTGCGGAATGCGCGAGGA

Green highlighted ATG is the translational start site.

Gray highlighted CGs are covered and assessed.

**CHFR**

ENSG00000072609

-628 to -438 from start codon

cgaaaggggtccccacgtgcactacctcgtgacaactaagatggaccgtcttctactcctaggagtcatccccagatt  
agcggggctctcagaatccttggggcttccaatccggaagttccccgtcccttctgccccaacataacatggcgcc  
gaccgcagccacttccgtgatccgcaggcgacgaagtcgcctggtcaggatcaaatggccgagcgcctcca  
cgcgctactctcgggggcactcccggctccgcttagctgccgcttggtgagcgcgccgccaatcg  
cggggcgcagaggcctctggccccgccccgaggatcagctgagggagccgcaatgtCTCTTGACAGCG  
GCGGCGGCGCAGCCGGTTCCGGGTTCCGGCGCGGGGCGGGGgtaagcgcggctggcgag  
ggggctgcggcggggcggcgaagggggacctggttgcggcctgggagggggcgcccggcgctccaggc  
cgggctgcggggctcgtgggcgcgggcgccggggccggggcccgggggtggggcgggcgccgagctc  
ggcctctggggctcgggagctccatgggcgttccgggtctccgcagATGTGAATCCCGATGGAGCG  
GCCCGA

**DAPK1**

ENSG00000196730

-602 to -451 from start codon

CGCTCGGGGAAGGGGAGAGGGTGGCCACCGTGTAGGAGAGGCGCGGGAGCCGA  
GAGGTGGCGCGGGGGTGCCACCGTTGCCGAGGCTGGAGAGAGATTGCTCCAGT

GAGGCGCGTACCGTCTGGGCGAGGGCTTCATTCTTCCGCGGCGTCCCTGGAGGTGG  
GAAAGCTGGGTGGGCATGTGTGCAGAGAAAGGGGAGGCGGGGAGGCCAGTCACTT  
CCGGAGCCGGTTCTGATCCCAACAGACCGCCAGCGTTTGGGGACGCCGACCTCGG  
GGTGCCGTGGTGCCCGGCCCCACGCGCGCGCGGGGCTGAGGGGTGCGGGGGCGTC  
CCTGGCCGCCAGCTTTAACAAGGGTGCTCCTCTCCACCCCGCGAGGAGGGGCAG  
CTCCGGAGACCCGGTCTTCAGCGAGCGGGGTCTTAGCGCCGGGGAGGTCTACTTCC  
TTTTGGGGTTGCCATTTTACTATTATTGCTTTTTTTTTTTCTTCAAAGG**ACTGGAG**  
**ACTGATGCATGAGGGGGCTACGGAGGCGCAGGAGCGGTGGTGGTCTGGGAA**  
**GCGGAGCTGAAGTGCCCTGGGCTTTGGTGAGGCGTGACAGTTTATC**ATG**ACCGTGT**  
**TCAGGCAGGAAAACGTGGATGATTA**CTA

***ESR1***

ENSG00000091831

+62 to +119 from start codon

**ATG**ACCATGACCCTCCACACCAAAGCATCTGGGATGGCCCTACTGCATCAGATCCA  
AGGGAACGAGCTGGAGCCCTGAACCGTCCGCAGCTCAAGATCCCCCTGGAGCGG  
CCCCTGGGCGAGGTGTACCTGGA

***H19***

ENSG00000130600

-1997 ~ -1940 from TSS

CGCACCAGATCTTCAGGTCGGGCATTATCCACAGCCCCGTGGCCCCGGGTCACACT  
CCGAGGGCTTCAGTGTCATGGCCTGGGACTCAAGTCACGCCTACTTATGTGATGAT  
CACAGTGTGTTCCACCAAATCTTACATTTTCCACATCTATCCCAGAGCACAGCTCC  
GACTCCGTCTAAGGACAGCCCCAAATCCCAGCCTTTTACTGAACTGACAATTGC  
CTCCCCAGTGAACACTCTGATCTCCTCAGCCCTAAGTGCCAGACATTAACATTCTC  
ATTCAATGCAGGTTTGGAGGTGCTAATTCAGGAGCTTAA.....gccctgctctgattggccggc  
agggcaggggCGGgaattctgggCGGGGCCACCCcagttagaaaaagcccgggctaggaccgaggag**AG**

***IGF2AS***

SAKAGUCHI, et al.

ABERRANT DNA METHYLATION IN CHILDREN WITH JMML

ENSG00000099869

AY375532

nt 8605-8874

**CGAATGGCCCGCCTTGAGGGGTCATGGCACCGGAATATGAAAGCCTCCTCCACCTC  
CAAACACCCCCACCTTGAA[G/A]GAGATAAGGAGGGGGCCCCAGCAAAGCCAC  
TGGACACACAGCTCTGCTTGACGAGGCCAGTGAGGGACGGCGTGGCTGTGCTTCC  
TGGGGAA[A/G]TGAACCCCTCCCCACAGACACCACCCTGGGTGGAT[T/C]GAGGA  
GTCTGGG**

***MGMT***

ENSG00000170430

+28 to +47 from start codon

**ATGCTGGGACAGCCCGCGCCCTAGAACGCTTTGCGTCCCGACGCCCGCAGGT**

***MLH1***

ENSG00000076242

-185 to -162 from TSS

**CGCCAAGCACCTCCTCCGCTCTGCGCCAGATCACCTCAGCAGAGGCACACAAGCCC  
GGTTCCGGCATCTCTGCTCCTATTGGCTGGATATTTTCGTATTCCCCGAGCTCCTAAAA  
ACGAACCAATAGGAAGAGCGGACAGCGATCTCTAACGCGCAAGCGCATATCCTTCTA  
GGTAGCGGGCAGTAGCCGCTTCAGGGAGGGAC**

***RASSF1***

ENSG00000068028

-57 to +4 from start codon

**CGCCCGGCCCGCCTTGCTAGCGCCCAAAGCCAGCGAAGCACGGGCCCAACCGG  
GCCATGTCGGGGGAGCCTGAGCTCATTGAGCTGCGGGAGCTGG**

***TP73***

ENSG00000078900

SAKAGUCHI, et al.

ABERRANT DNA METHYLATION IN CHILDREN WITH JMML

+93 to 163 from TSS

**A**GGGGACGCAGCGAAACCGGGGCCCGCGCCAGGCCAGCCGGGACGGACGCCGAT  
GCCCGGGGCTGCGACGGCTGCAGGTAGGAGGCCAGGGCCGGGGGGCGGTT**CGG**  
CTCCGCGGGCGGGGGCTGGAG**CGC**AG**CG**CTGGGCAGGCACCTGGGCT**CGC**AGCT  
**CCG**