Supplementary Materials and Methods

Characterization of a bone marrow-specific *FHL2* transcript

To clone the 5' segment of the human *FHL2* transcript, we performed 5' RACE using cDNA from bone marrow and the Marathon Ready 5' RACE kit (BD BioSciences, San Jose, CA). The gene-specific primer used for 5' RACE was CACCACGCAGTAGGGGCTCTC. Primers used for amplification of exons 1-4, or exons 3-4 of the *FHL2* transcript, respectively, were 5'-primer (AAGACAGAACCCTAAAACCAC), or 5'-primer (ACAGACTGCTATTCCACCGAG), and 3'-primer (TGGGGATGAAACTCTTGGTTC). For amplification of exons 1-4 of *B-FHL2*, we used 5'-primer (CCTTGAGCTTGGGTGAATGGAAACA), and the same 3'-primer.

Bisulfite sequencing

Genomic DNA (1mg), isolated from untreated KG-1 cells, and cells treated with 5'-aza-dC, was incubated with 5.5ml 2N NaOH at 37°C for 10 min, then treated with 30ml 10 mM hydroquinone and incubated with 520ml 3.6M Sodium Bisulfite at 50-55°C for 16-22 hrs (all chemicals from Sigma). Bisulfite-treated DNA was cleaned by using the WizardTM DNA Clean-up system, followed by treatment with 5.5 ml 3N NaOH and incubation at RT for 5 min. The DNA was precipitated by EtOH precipitation.The forward primer (5'-CGTTGGAGTTTAGAGGAGTTTA-3') and reverse primer (5' CAATTATTAAATATCTACCTAAATC-3') were used for PCR to amplify the regions containing the CpG islands. PCR products were TOPO TA cloned (Invitrogen). Clones were randomly picked and sequenced. Sequences were analyzed by the DNAStar MegAlign program to assess the CpG methylation level.

Retroviral constructs

The protein coding regions of *p21 (Cip1)*, *p27(Kip1)* or *p57(Kip2)* were amplified by PCR from mouse fetal liver cDNA, and then subcloned into MSCVpuro retroviral vector at the XhoI /EcoRI sites. The inserted DNA fragments were validated by sequencing.

The sequences of primers used for PCR amplification of these genes are listed as follows:

p21 (Cip1):

5'CCGCTCGAGATGGATTACAAGGATGACGACGATAAGTCCAATCCTGGTGATGTCCGAC-3', 5'-CCGGAATTCTCAGGGTTTTCTCTTGCAGAAGAC-3';

p27 (Kip1):

5'CCGCTCGAGATGGATTACAAGGATGACGACGATAAGTCAAACGTGAGAGTGTCTAACG-3', 5'-CCGGAATTCTGTTTACGTCTGGCGTCGAAGGC-3';

p57 (Kip2):

5'CCGCTCGAGATGGATTACAAGGATGACGACGATAAGGGCATGTCCGACGTGTACCTCC-3', 5'-CCGGAATTCTCATCTCAGACGTTTGCGCGGG-3'.

The sequences of primers used for real-time PCR are listed as follows:

Fhl2, 5'-TCCATACTGCCTGACCTGC-3', 5'-TTGGCGTTCCTCGAAAGAG-3';

Cdk1, 5'-CTCCAGGCTGTATCTCATCTTTG-3', 5'- TTTTGAGGTTTCAAGTCTCTGTG-3',

Cdk2, 5'-GCAGACTTTGGACTAGCAAGAGC-3', 5'-AGCCCAGAAGAATTTCAGGTGC-3';

Cdk4, 5'- CAAGTAATGGGACCGTCAAG-3', 5'-GGCTTCAGAGTTTCCACAGA-3';

Cdk6, 5'-TGAATCACCCGTACTTCCAA-3', 5'-TGCTCTGAGAGGCTTGCTTA-3';

p21(Cip1), 5'-TGACCCACAGCAGAAGAG -3', 5'-ACCAGCCTGACAGATTTCTA-3';

p27(Kip1), 5'-TGGACCAAATGCCTGACTC-3', 5'-GGGAACCGTCTGAAACATTTTC-3';

p57 (Kip2), 5'-CAGGACGAGAATCAAGAGCAG-3', 5'-CGACGCCTTGTTCTCCTG-3';

FHL2 (human): 5'-GCCAACACCTGCGAGGAGT-3' , 5'-AGTGCCGGTCCTTGTAAGACA-3'