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HLS5, a Novel RBCC (Ring Finger, B Box, Coiled-coil) Family Member Isolated from a Hemopoietic Lineage Switch, Is a Candidate Tumor Suppressor*

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Hemopoietic cells, apparently committed to one lineage, can be reprogrammed to display the phenotype of another lineage. The J2E erythroleukemic cell line has on rare occasions developed the features of monocytic cells. Subtractive hybridization was used in an attempt to identify genes that were up-regulated during this erythroid to myeloid transition. We report here on the isolation of hemopoietic lineage switch 5 (*Hls5*), a gene expressed by the monocytoid variant cells, but not the parental J2E cells. *Hls5* is a novel member of the RBCC (Ring finger, B box, coiled-coil) family of genes, which includes *Pml*, *Herf1*, *Tif-1 α* , and *Rfp*. *Hls5* was expressed in a wide range of adult tissues; however, at different stages during embryogenesis, *Hls5* was detected in the branchial arches, spinal cord, dorsal root ganglia, limb buds, and brain. The protein was present in cytoplasmic granules and punctate nuclear bodies. Isolation of the human cDNA and genomic DNA revealed that

the gene was located on chromosome 8p21, a region implicated in numerous leukemias and solid tumors. Enforced expression of *Hls5* in HeLa cells inhibited cell growth, clonogenicity, and tumorigenicity. It is conceivable that *HLS5* is one of the tumor suppressor genes thought to reside at the 8p21 locus.

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