Supporting Information

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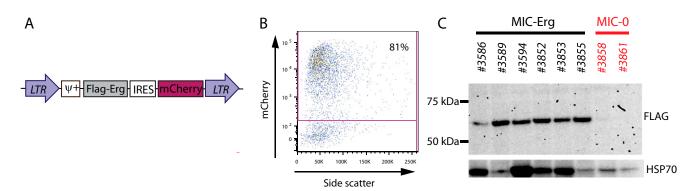


Fig. 51. A MSCV-based retrovirus carrying the cDNA encoding murine Erg was used to transduce hematopoietic cells. (A) Schematic of the retroviral construct containing the Erg cDNA downstream of a long terminal repeat (LTR) promoter. An internal ribosome entry site (IRES) sequence allows the mCherry reporter gene to be translated from the same promoter as Erg. (B) Transduction efficiency in FLCs was greater than 80%, as determined by expression of the mCherry marker. (C) Expression of the N-terminal FLAG-Tagged Erg protein was confirmed by Western blot analysis using an anti-FLAG monoclonal antibody.

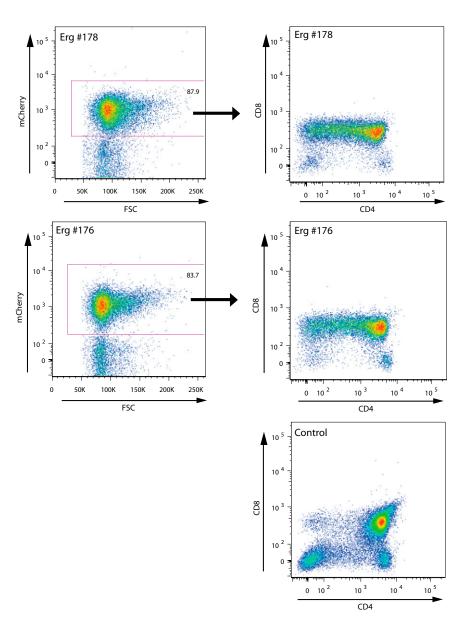


Fig. S2. Flow cytometric analysis of thymus from Erg mice histopathologically diagnosed with lymphoid leukemia. Thymus cells from leukemic mice (Erg nos. 176 and 178) are >80% mCherry⁺ and have an altered CD4/CD8 profile compared with thymus cells from a control mouse (Control). Two representative Erg mice and a control mouse are shown.

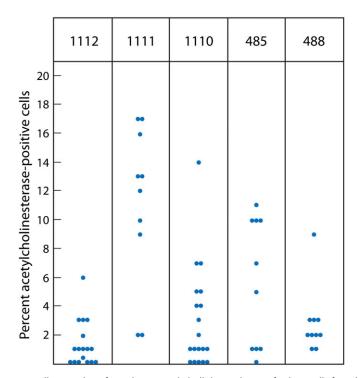


Fig. S3. Proportion of acetylcholinesterase cells per colony from day 14 methylcellulose cultures of spleen cells from leukemic mice. Five independent mice were analyzed (nos. 1112, 1111, 1110, 485, and 488). Individual colonies were picked and cytocentrifuged onto duplicate slides. One slide was stained with acetylcholinesterase, and positive cells were scored. Each blue dot represents a single colony picked and stained.

Table S1. Differential cell counts from cytocentrifuge preparations of bone marrow and spleen cells from leukemic (n = 10) and control (n = 5) mice

Cells	Total cells, ×10 ⁶ or weight in mg	Percentage						
		Blasts	Mb/Mc	Meta/poly	Lymph	Mono	Eosin	Nuc RBC
ERG primary erythroleukemias ($n = 10$)								
Bone marrow	25.9 ± 9.7	19 ± 10	2 ± 2	12 ± 8	14 ± 8	3 ± 2	1 ± 1	49 ± 11
Spleen	406 ± 179	17 ± 14	1 ± 4	2 ± 6	13 ± 12	2 ± 5	0 ± 0	65 ± 10
Control mice $(n = 5)$								
Bone marrow	27.5 ± 2.0	7 ± 3	7 ± 2	32 ± 8	26 ± 8	3 ± 2	2 ± 1	23 ± 12
Spleen	75 ± 8	2 ± 1	0.2 ± 0.5	6 ± 4	89 ± 6	1 ± 2	0.4 ± 0.9	2 ± 4

Blasts, blast cells; Eosin, eosinophils; Lymph, lymphocytes; Mb/Mc, promyelocytes/myelocytes; Meta/poly, metamyelocytes/neutrophils; Mono, monocytes; Nuc RBC, nucleated erythrocytes.

Table S2. Colony formation by bone marrow of leukemic (n = 7) and control (n = 4) mice

No. of colonies

Mouse and stimulus Blast G GM М Ео Comments Meg Erg leukemic (n = 7) GM-CSF 17 ± 9 7 ± 5 62 ± 21 1 ± 1 4/7 multinucleate macrophages G-CSF 10 ± 7 0 ± 0 0 ± 0 M-CSF 70 ± 41 5 ± 3 4 ± 4 Multi-CSF 2 ± 2 27 ± 19 5 ± 4 26 ± 13 1 ± 1 1 ± 2 SCF + IL-3 + EPO 5 ± 7 31 ± 18 9 ± 8 22 ± 13 10 ± 8 21 ± 34 mini megs 1 ± 2 Saline 0 ± 0 0 ± 0 0 ± 0 Control (n = 4)GM-CSF 36 ± 5 7 ± 2 54 ± 3 4 ± 2 G-CSF 18 ± 2 0 ± 0 0 ± 0 M-CSF 77 ± 13 4 ± 2 6 ± 13 Multi-CSF 30 ± 11 12 ± 7 18 ± 6 5 ± 5 3 ± 2 3 ± 1 SCF + IL-3 + EPO 7 ± 5 49 ± 9 22 ± 8 30 ± 10 5 ± 2 24 ± 11 Saline 0 ± 0 0 ± 0 0 ± 0

In agar cultures from leukemic bone marrow stimulated with GM-CSF, colonies containing multinucleate macrophages were observed. In agar cultures from leukemic bone marrow stimulated with SCF/IL-3/EPO, colonies containing very small acetylcholinesterase positive cells (mini megs) were also observed. This was not observed in control cultures. Blast, blast colonies; Eo, eosinophil colonies; G, granulocyte colonies; GM, granulocyte and macrophage mixed colonies; M, macrophage colonies; Meg, megakaryocyte colonies.