

Table 31. Significantly enriched pathway categories from analysis of the up-regulated genes

Up in AML vs. normal cells (NBM and purified hematopoietic cells)						
System	Gene category	List hits	List total	Population hits	Population total	EASE score
Chromosome	Homo sapiens 2	38	318	449	6800	4.36E-04
Chromosome	Homo sapiens 2p	20	318	195	6800	1.77E-03
KEGG pathway	Carbohydrate metabolism	14	53	97	900	2.11E-03
KEGG pathway	Globoside metabolism	4	53	7	900	5.41E-03
KEGG pathway	N-Glycandegradation	4	53	9	900	1.19E-02
KEGG pathway	Sphingoglycolipidmetabolism	4	53	10	900	1.64E-02
KEGG pathway	Metabolism of complex lipids	12	53	106	900	3.30E-02
KEGG pathway	Glycosaminoglycandegradation	3	53	6	900	4.23E-02
Up in B lineage ALL normal cells (NBM and purified hematopoietic cells)						
System	Gene category	List hits	List total	Population hits	Population total	EASE score
Chromosome	Homo sapiens X	68	1243	247	7342	2.82E-05
Chromosome	Homo sapiens Xp	28	1243	95	7342	3.38E-03
Chromosome	Homo sapiens 18q	25	1243	82	7342	3.67E-03
Chromosome	Homo sapiens Xq	40	1243	152	7342	3.81E-03
Chromosome	Homo sapiens 5p	20	1243	62	7342	5.36E-03
KEGG pathway	Signal Transduction	20	109	98	952	9.45E-03
Chromosome	Homo sapiens 10p	19	1243	63	7342	1.43E-02
KEGG pathway	Phosphatidylinositol signaling systems	17	109	81	952	1.45E-02
Chromosome	Homo sapiens 17	89	1243	432	7342	3.03E-02
Chromosome	Homo sapiens 18	30	1243	122	7342	3.16E-02
KEGG pathway	D-Glutamine and D-glutamate metabolism	3	109	3	952	3.54E-02
Chromosome	Homo sapiens 14q	56	1243	259	7342	3.84E-02
Chromosome	Homo sapiens 14	56	1243	259	7342	3.84E-02
Chromosome	Homo sapiens 6	83	1243	405	7342	4.05E-02
GenMAPP pathway	G Protein Signaling	11	87	41	625	4.20E-02
Up in T cell ALL vs. normal cells (NBM and purified hematopoietic cells)						
System	Gene category	List hits	List total	Population hits	Population total	EASE score
KEGG pathway	Carbohydrate metabolism	16	74	98	917	6.99E-03
Chromosome	Homo sapiens 9q	34	716	211	7049	7.37E-03
Chromosome	Homo sapiens 4q	31	716	188	7049	7.80E-03
Chromosome	Homo sapiens 12q	42	716	277	7049	8.02E-03
KEGG pathway	Butanoate metabolism	6	74	18	917	1.05E-02
Chromosome	Homo sapiens 4	40	716	271	7049	1.49E-02
BBID pathway	T cell receptor	4	13	10	201	1.55E-02
Chromosome	Homo sapiens 9	42	716	289	7049	1.60E-02
Chromosome	Homo sapiens 12	52	716	378	7049	1.94E-02
GenMAPP pathway	Cell cycle	9	60	38	608	2.30E-02
GenMAPP pathway	Cell cycle	11	60	55	608	3.03E-02
KEGG pathway	Cell cycle	9	74	50	917	3.82E-02
KEGG pathway	Nucleotide metabolism	12	74	80	917	4.41E-02

Up in *TCF3/PBX1* vs. the remaining B lineage ALLs

System	Gene category	List hits	List total	Population hits	Population total	EASE score
Chromosome	Homo sapiens 1q	35	309	338	6904	5.83E-06
Chromosome	Homo sapiens 1	52	309	707	6904	3.14E-04
GenMAPP pathway	Cell cycle	9	31	56	593	4.31E-03
Chromosome	Homo sapiens 7p	13	309	119	6904	6.58E-03
GenMAPP pathway	Apoptosis	5	31	24	593	2.79E-02
Chromosome	Homo sapiens 16	21	309	285	6904	2.92E-02
GenMAPP pathway	Cell cycle	6	31	38	593	3.60E-02
KEGG pathway	Valine, leucine, and isoleucine degradation	5	53	24	893	4.56E-02

IGH@/MYC vs. the remaining B lineage ALLs

System	Gene category	List hits	List total	Population hits	Population total	EASE score
KEGG pathway	Amino acid metabolism	9	22	129	893	5.98E-03

ETV6/RUNX1 vs. the remaining B lineage ALLs

System	Gene category	List hits	List total	Population hits	Population total	EASE score
Chromosome	Homo sapiens 15q	25	385	221	6904	1.19E-03
Chromosome	Homo sapiens 15	25	385	223	6904	1.35E-03
Chromosome	Homo sapiens 16	28	385	285	6904	4.40E-03
Chromosome	Homo sapiens 20	19	385	173	6904	7.39E-03
KEGG pathway	Phosphatidylinositol signaling system	10	49	75	893	1.45E-02
GenMAPP pathway	Calcium channels	3	26	5	593	1.58E-02
Chromosome	Homo sapiens 16p	15	385	151	6904	4.09E-02
Chromosome	Homo sapiens 9	24	385	283	6904	4.22E-02
KEGG pathway	Signal transduction	10	49	91	893	4.63E-02

Hyperdiploid >50 chromosomes vs. the remaining B lineage ALLs

System	Gene category	List hits	List total	Population hits	Population total	EASE score
Chromosome	Homo sapiens X	111	441	234	6904	4.72E-72
Chromosome	Homo sapiens Xq	69	441	141	6904	8.79E-45
Chromosome	Homo sapiens Xp	42	441	93	6904	3.19E-25
Chromosome	Homo sapiens 21	29	441	88	6904	2.97E-13
Chromosome	Homo sapiens 21q	29	441	88	6904	2.97E-13
Chromosome	Homo sapiens 14	44	441	250	6904	1.25E-09
Chromosome	Homo sapiens 14q	44	441	250	6904	1.25E-09
Chromosome	Homo sapiens 6q	22	441	157	6904	9.19E-04
Chromosome	Homo sapiens 10	31	441	274	6904	2.37E-03
Chromosome	Homo sapiens 10q	25	441	217	6904	5.53E-03
Chromosome	Homo sapiens 6	37	441	385	6904	1.22E-02
Chromosome	Homo sapiens 4	25	441	260	6904	4.18E-02

MLL vs. the remaining B lineage ALLs

System	Gene category	List hits	List total	Population hits	Population total	EASE score
Chromosome	Homo sapiens 4	7	48	260	6904	7.91E-03
Chromosome	Homo sapiens 4p	4	48	87	6904	2.10E-02

MLL vs. the remaining AMLs

System	Gene category	List hits	List total	Population hits	Population total	EASE score
Chromosome	Homo sapiens 10q	5	49	180	5619	6.65E-02

MLL vs. the remaining B lineage ALLs and AMLs

No enriched categories
