

**Table S8. Functional categories of down-regulated genes associated with good prognosis**

GO category	Corrected p-value	No. of genes	Other tags with downregulated genes	Other tags with upregulated genes
<b>Biological Processes</b>				
cell cycle process	2.20E-11	31	<i>CD34+CD38- fraction</i> <i>euploid</i> <i>FLT3-ITD</i> <i>low centrosome aberrations</i> <i>NPM1 mutation</i>	<i>aneuploid</i> <i>CD34+CD38+ fraction</i> <i>high centrosome aberrations</i> <i>poor prognosis</i>
mitotic cell cycle	3.64E-09	24	<i>CD34+CD38- fraction</i> <i>euploid</i> <i>FLT3-ITD</i> <i>low centrosome aberrations</i> <i>NPM1 mutation</i>	<i>aneuploid</i> <i>CD34+CD38+ fraction</i> <i>high centrosome aberrations</i> <i>poor prognosis</i>
cell cycle phase	4.75E-09	25	<i>CD34+CD38- fraction</i> <i>euploid</i> <i>FLT3-ITD</i> <i>low centrosome aberrations</i> <i>NPM1 mutation</i>	<i>aneuploid</i> <i>CD34+CD38+ fraction</i> <i>high centrosome aberrations</i> <i>poor prognosis</i>
cell division	2.77E-08	20	<i>CD34+CD38- fraction</i> <i>euploid</i> <i>low centrosome aberrations</i> <i>NPM1 mutation</i>	<i>aneuploid</i> <i>CD34+CD38+ fraction</i> <i>high centrosome aberrations</i> <i>poor prognosis</i>
regulation of cell cycle	4.93E-08	21	<i>CD34+CD38- fraction</i> <i>euploid</i> <i>low centrosome aberrations</i>	<i>abnormal cytogenetics</i> <i>aneuploid</i> <i>CD34+CD38+ fraction</i> <i>high centrosome aberrations</i> <i>poor prognosis</i>
mitosis	5.63E-08	19	<i>CD34+CD38- fraction</i> <i>euploid</i> <i>FLT3-ITD</i> <i>NPM1 mutation</i>	<i>aneuploid</i> <i>CD34+CD38+ fraction</i> <i>poor prognosis</i>
M phase of mitotic cell cycle	8.78E-08	19	<i>CD34+CD38- fraction</i> <i>euploid</i> <i>FLT3-ITD</i> <i>NPM1 mutation</i>	<i>aneuploid</i> <i>CD34+CD38+ fraction</i> <i>poor prognosis</i>
M phase	9.13E-07	20	<i>CD34+CD38- fraction</i> <i>euploid</i> <i>NPM1 mutation</i>	<i>aneuploid</i> <i>CD34+CD38+ fraction</i> <i>poor prognosis</i>
DNA metabolic process	3.28E-05	32	<i>euploid</i> <i>low centrosome aberrations</i>	<i>abnormal cytogenetics</i> <i>aneuploid</i> <i>high centrosome aberrations</i> <i>poor prognosis</i>
interphase of mitotic cell cycle	7.51E-05	10	<i>CD34+CD38- fraction</i> <i>euploid</i> <i>low centrosome aberrations</i> <i>NPM1 mutation</i>	<i>aneuploid</i> <i>CD34+CD38+ fraction</i> <i>high centrosome aberrations</i> <i>poor prognosis</i>
interphase	1.40E-04	10	<i>CD34+CD38- fraction</i> <i>euploid</i> <i>low centrosome aberrations</i> <i>NPM1 mutation</i>	<i>aneuploid</i> <i>CD34+CD38+ fraction</i> <i>high centrosome aberrations</i> <i>poor prognosis</i>
organic acid metabolic process	2.90E-04	28		<i>poor prognosis</i>
carboxylic acid metabolic process	8.70E-04	27		<i>poor prognosis</i>
G1 phase of mitotic cell cycle	1.04E-03	5	<i>CD34+CD38- fraction</i>	<i>CD34+CD38+ fraction</i> <i>poor prognosis</i>
G1 phase	2.54E-03	5	<i>CD34+CD38- fraction</i>	<i>CD34+CD38+ fraction</i> <i>poor prognosis</i>
cellular component assembly	4.19E-03	27		
<b>Molecular Functions</b>				
nucleotide binding	6.42E-03	84	<i>euploid</i>	<i>aneuploid</i>
<b>Cellular Components</b>				
microtubule cytoskeleton	2.41E-06	25	<i>CD34+CD38- fraction</i> <i>euploid</i>	<i>aneuploid</i> <i>CD34+CD38+ fraction</i> <i>poor prognosis</i>

mitochondrion	4.30E-06	36		<i>MLL fusion gene</i> <i>poor prognosis</i>
spindle	1.10E-05	10	<i>CD34+CD38- fraction</i> <i>euploid</i> <i>NPM1 mutation</i>	<i>aneuploid</i> <i>CD34+CD38+ fraction</i> <i>poor prognosis</i>
protein complex	2.29E-05	70	<i>euploid</i> <i>low centrosome aberrations</i>	<i>aneuploid</i> <i>high centrosome aberrations</i> <i>poor prognosis</i>
plasma membrane part	1.16E-03	53	<i>CEBPA mutation</i> <i>t(15;17)</i>	<i>11q23</i> <i>CEBPA silenced</i> <i>FAB-M4</i> <i>FAB-M5</i> <i>FAB-M7</i> <i>inv(16)</i> <i>poor prognosis</i>
microtubule organizing center	3.45E-03	10	<i>CD34+CD38- fraction</i> <i>euploid</i>	<i>aneuploid</i> <i>CD34+CD38+ fraction</i> <i>poor prognosis</i>
macromolecular complex	3.51E-03	78	<i>euploid</i> <i>low centrosome aberrations</i>	<i>abnormal cytogenetics</i> <i>aneuploid</i> <i>high centrosome aberrations</i>
cytoskeleton	3.77E-03	38	<i>euploid</i> <i>NPM1 mutation</i>	<i>aneuploid</i>

Significantly over-represented functional gene ontology (GO) categories of down-regulated genes associated with good prognosis are presented here. GO categories that are also over-represented in up-regulated genes associated with good prognosis are not included. Corrected p-value is the Bonferroni multiple hypothesis. Identification tags that are both up-regulated and down-regulated are not included in the 'other tags' columns. Identification tag descriptions can be found in Table S1.