Supplementary Table 10: Cancer driver genes and enrichment results of the histone subnetwork ranked by number of modules each driver gene is participating in.

Regulators

	M31_BLCA	M13_BRCA	M26_COADREAD	M33_GBM	M80_HNSC	M87_KIRC	M93_LAML	M51_LUAD	M84_LUSC	M39_OV	M10_UCEC
HIST1H2AE	1	1	1	0	0	0	0	1	1	0	1
HIST1H3G	1	0	1	0	1	0	0	0	0	0	0
HIST1H2BJ	0	1	0	0	0	0	0	1	1	0	0
HIST1H3H	0	1	0	0	0	1	0	0	1	0	0
ENSA	0	1	0	0	0	0	0	0	1	0	0
HIST1H1D	0	1	0	0	0	0	0	0	1	0	0
HIST1H3D	0	1	0	0	0	0	0	1	0	0	0
FIG4	0	0	0	0	0	1	0	1	0	0	0

Gene enrichment

Gene sets	M31_BLCA	M13_BRCA	M26_COADREAD	M33_GBM	M80_HNSC	M87_KIRC	M93_LAML	M51_LUAD	M84_LUSC	M39_OV	M10_UCEC	# significant enrichments	Averaged p.value
KEGG_SYSTEMIC_LUPUS_ERYTHEMATOSUS	6.76E-33	8.12E-54	1.04E-26	1.74E-21	5.51E-16	3.78E-25	3.75E-34	4.18E-32	5.28E-29	1.19E-46	8.83E-30	11	2.40E-03
REACTOME_MEIOSIS	2.24E-31	6.04E-41	6.53E-25	1.53E-17	9.61E-17	8.63E-15	7.11E-23	2.90E-27	7.01E-19	1.20E-33	4.46E-31	11	8.67E-06
REACTOME_CELL_CYCLE	1.44E-11	3.09E-20	5.32E-09	2.84E-11	3.91E-05	4.03E-04	1.27E-09	1.32E-10	6.74E-07	3.30E-20	5.31E-13	11	2.00E-06
REACTOME_RNA_POL_I_TRANSCRIPTION	2.29E-33	1.23E-43	1.67E-26	2.47E-16	8.02E-18	7.23E-16	1.36E-24	5.50E-29	3.27E-20	3.46E-36	6.19E-33	11	2.83E-04
REACTOME_TRANSCRIPTION	4.83E-27	3.72E-35	1.99E-21	1.72E-12	2.30E-14	2.05E-12	4.01E-19	1.69E-23	5.87E-16	3.58E-28	5.02E-27	11	6.98E-11
REACTOME_RNA_POL_I_RNA_POL_III_AND_MITOCH	5.31E-31	1.92E-40	1.30E-24	6.62E-15	1.54E-16	1.38E-14	1.50E-22	6.13E-27	1.25E-18	3.60E-33	9.96E-31	11	6.67E-07
REACTOME_CHROMOSOME_MAINTENANCE	1.37E-17	1.08E-29	6.65E-14	2.73E-17	2.21E-08	2.36E-07	1.31E-15	4.54E-16	3.10E-11	8.62E-31	4.87E-19	11	8.60E-06
REACTOME_DEPOSITION_OF_NEW_CENPA_CONTAI	7.39E-21	5.96E-35	1.52E-16	7.44E-18	4.14E-10	4.45E-09	7.15E-19	5.07E-19	1.45E-13	9.59E-37	2.61E-22	11	9.41E-06
REACTOME_RNA_POL_I_PROMOTER_OPENING	3.56E-36	1.76E-47	9.93E-29	5.29E-18	2.57E-19	2.32E-17	5.24E-27	2.10E-31	4.58E-22	8.20E-40	1.51E-35	11	4.23E-05
REACTOME_MEIOTIC_RECOMBINATION	1.25E-33	5.45E-44	1.04E-26	4.82E-19	5.81E-18	5.23E-16	8.08E-25	3.27E-29	2.19E-20	1.60E-36	3.53E-33	11	3.54E-12
REACTOME_MEIOTIC_SYNAPSIS	3.53E-20	7.61E-34	5.36E-16	3.04E-17	9.39E-10	1.01E-08	3.41E-18	2.07E-18	4.40E-13	1.74E-35	1.25E-21	11	3.66E-05
REACTOME_AMYLOIDS	6.71E-34	2.33E-44	6.30E-27	1.19E-16	4.15E-18	3.74E-16	4.72E-25	1.91E-29	1.45E-20	7.17E-37	1.97E-33	11	1.70E-08
REACTOME_PACKAGING_OF_TELOMERE_ENDS	2.26E-22	1.85E-37	9.31E-18	3.23E-19	6.79E-11	7.32E-10	2.19E-20	2.20E-20	1.24E-14	1.29E-39	7.95E-24	11	1.54E-08
REACTOME_TELOMERE_MAINTENANCE	4.85E-20	1.28E-33	6.93E-16	9.69E-20	1.11E-09	1.19E-08	4.68E-18	2.77E-18	5.51E-13	3.13E-35	1.72E-21	11	8.80E-06
ACEVEDO_LIVER_CANCER_WITH_H3K27ME3_DN	1.74E-06	1.27E-22	2.99E-07	4.11E-10	9.84E-07	1.00E-07	1.49E-12	4.99E-09	4.99E-09	1.20E-15	1.23E-13	11	3.66E-05
18172295-SuppTable3	3.38E-08	1.99E-11	1.36E-05	1.13E-04	1	6.19E-10	2.74E-08	6.48E-13	6.48E-13	9.33E-11	1.36E-05	10	2.45E-10
HELLER_HDAC_TARGETS_SILENCED_BY_METHYLA	2.54E-09	5.06E-14	4.04E-05	9.58E-06	1	2.35E-11	3.42E-09	3.28E-14	3.67E-12	2.27E-11	1.20E-08	10	8.23E-07
18798265-tableS2	3.91E-10	8.35E-15	1.23E-06	1	1	2.87E-09	4.50E-05	8.50E-11	1.40E-08	6.44E-11	4.74E-11	9	1.74E-08
HELLER_HDAC_TARGETS_UP	1.73E-05	8.91E-11	3.00E-06	1	1	1.06E-08	6.22E-06	7.68E-12	8.18E-10	2.29E-10	1.81E-04	9	8.61E-06
18172295-SuppTable2	2.83E-04	8.81E-10	9.29E-07	1	1	3.12E-07	6.79E-05	1.79E-10	1.79E-10	1.33E-09	1	8	1.35E-05
15489886-TableS1a	1.47E-03	2.99E-10	1	1	1	1.44E-04	4.59E-04	2.21E-09	1.05E-05	7.83E-07	3.49E-04	8	2.01E-09
GEORGANTAS_HSC_MARKERS	1.61E-12	1.03E-15	1	1	1	8.49E-09	1.66E-13	8.20E-16	1.17E-10	9.07E-12	4.11E-16	8	1.43E-03
EGFR_UP.V1_DN	4.12E-05	3.41E-11	1	9.69E-09	1	3.93E-06	1	1.56E-07	1.43E-05	9.14E-15	9.61E-06	8	4.67E-07
MEK_UP.V1_DN	4.25E-05	2.71E-09	1	5.81E-05	1	4.05E-06	1	1.48E-05	1.48E-05	4.00E-11	9.91E-06	8	9.68E-06
STK33_SKM_UP	7.86E-06	2.56E-11	1	1	1	4.57E-07	5.51E-08	2.45E-12	2.93E-10	8.69E-08	9.22E-05	8	1.07E-05
HADDAD_B_LYMPHOCYTE_PROGENITOR	4.81E-04	1.06E-07	1	1.46E-05	1	1	1.26E-04	3.74E-08	1.69E-04	3.52E-09	1	7	6.87E-05
16109776-TableS1	5.12E-03	4.99E-02	1	1	1	1	4.05E-02	1.82E-03	1.82E-03	1	1	5	5.84E-06
18757322-TableS3	1	1.16E-05	1	1	1	1	1	4.72E-08	1.11E-04	5.83E-03	1	4	9.64E-09
19429869-TableS1	1	2.43E-05	1	1.45E-06	1	1	1	6.01E-04	1	1.00E-06	1	4	1.40E-04
15459216-TableA2e	1	6.43E-22	1	1	1	1	7.57E-14	6.01E-13	1	2.66E-17	1	4	9.26E-06
DEURIG_T_CELL_PROLYMPHOCYTIC_LEUKEMIA_UP	1	7.85E-04	1	2.55E-03	1	1	1.51E-02	1	1	2.83E-05	1	4	5.99E-05
GSE13411_PLASMA_CELL_VS_MEMORY_BCELL_UP	1	1.15E-05	1	6.76E-05	1	1	1.60E-07	1	1	1.25E-07	1	4	2.31E-07
GSE29618_MONOCYTE_VS_MDC_DN	1	1.15E-05	1	1.24E-08	1	1	4.14E-04	1	1	1.25E-07	1	4	2.78E-03
18362358-Table10	1	9.58E-04	1	8.78E-05	1	1	1	1	1	3.66E-05	1	3	2.53E-04
18487511-TableS1	1	5.47E-06	1	2.62E-11	1	1	1	1	1	1.23E-12	1	3	4.74E-11
17823660-TableS2	1	1.49E-04	1	1	1	1	1	2.36E-03	1	4.51E-02	1	3	1.89E-09
GAZDA_DIAMOND_BLACKFAN_ANEMIA_ERYTHROI	1	5.55E-03	1	5.23E-04	1	1	1	1	1	5.40E-03	1	3	1.54E-08
DAZARD_RESPONSE_TO_UV_NHEK_UP	1	1	1	2.21E-04	1	1	1.34E-03	1	1	6.63E-04	1	3	1.95E-04
ACEVEDO_LIVER_CANCER_WITH_H3K9ME3_DN	1	1.70E-15	1	1	1	1	2.44E-07	1	1	8.24E-08	1	3	2.50E-05
GSE29618_MONOCYTE_VS_MDC_DAY7_FLU_VACCIN	1	1.15E-05	1	6.76E-05	1	1	1	1	1	1.25E-07	1	3	9.27E-08
GSE29618_LAIV_VS_TIV_FLU_VACCINE_DAY7_PDC_	1	1.15E-05	1	6.76E-05	1	1	1	1	1	1.25E-07	1	3	7.77E-04
19181379-Table2	1	3.84E-10	1	1	1	1	1	1	1	1.05E-11	1	2	1.13E-03
16434974-Table1	1	1	1	5.06E-06	1	1	1	1	1	8.45E-06	1	2	4.00E-03
16909110-Table1	1	2.04E-06	1	1	1	1	1	6.54E-08	1	1	1	2	2.21E-09
OLSSON_E2F3_TARGETS_DN	1	9.69E-08	1	1	1	1	1	3.08E-09	1	1	1	2	1.55E-10

KOBAYASHI_EGFR_SIGNALING_24HR_UP	1	8.47E-06	1	1	1	1	1	1	1	2.02E-08	1	2	1.20E-04
GSE12845_IGD_POS_VS_NEG_BLOOD_BCELL_UP	1	1.15E-05	1	1	1	1	1	1	1	1.25E-07	1	2	1.29E-03
GSE12845_IGD_POS_BLOOD_VS_NAIVE_TONSIL_BCE	1	1.15E-05	1	1	1	1	1	1	1	1.69E-04	1	2	1.01E-05
GSE22886_CTRL_VS_LPS_24H_DC_DN	1	1.15E-05	1	1	1	1	1	1	1	4.96E-06	1	2	1.34E-03