

Supplementary Table 1. Genes that are significantly differentially regulated in response to Rag DSBs that are independent of Atm

Relative fold change* for each sample / average of the RAG2^{-/-} samples									
Affymetrix ID	Sequence Name	A.1	A.2	A.3	A.3ΔN1	A.3ΔN2	A.3ΔN3	AA.1	AA.2
1445884_at	1110007A13Rik	-2.41	-3.06	-2.11	-1.57	-1.52	-1.67	-3.50	-3.62
1440848_at	1110028C15Rik	3.21	4.61	3.57	4.97	4.38	5.56	4.30	4.53
1458128_at	1110028C15Rik	5.61	5.89	6.23	7.60	8.74	8.38	6.33	7.08
1455219_at	1110030E23Rik	-3.38	-9.63	-3.07	-2.27	-2.43	-2.30	-9.31	-10.25
1452418_at	1200016E24Rik	3.16	3.54	12.70	4.47	5.18	6.28	5.10	3.11
1427820_at	1427820_at	-4.30	-12.62	-5.91	-5.86	-3.83	-3.98	-6.59	-6.99
1435981_at	1435981_at	-25.82	-8.09	-5.59	-27.23	-22.49	-50.72	-26.99	-37.82
1436449_at	1436449_at	61.73	34.03	4.22	7.05	6.44	15.05	20.49	11.62
1441172_at	1441172_at	-15.63	-22.56	-14.78	-33.19	-11.44	-18.68	-24.77	-17.80
1441971_at	1441971_at	4.61	10.44	2.75	4.09	4.93	5.46	2.26	4.55
1441974_at	1441974_at	-5.23	-6.26	-7.00	-27.21	-32.43	-31.61	-6.50	-6.53
1444416_at	1444416_at	-12.28	-10.32	-6.17	-4.67	-3.92	-4.47	-8.13	-13.11
1444937_at	1444937_at	-2.20	-4.46	-3.27	-2.01	-1.61	-2.31	-2.00	-2.35
1445411_at	1445411_at	-2.85	-3.03	-2.52	-3.21	-5.23	-3.07	-2.90	-2.67
1445641_at	1445641_at	3.19	3.16	3.13	3.78	5.26	5.13	5.42	6.47
1447124_at	1447124_at	-3.02	-3.11	-3.15	-2.97	-3.00	-3.36	-2.85	-2.79
1456426_at	1456426_at	-2.59	-10.97	-3.61	-1.24	-1.77	-3.48	-3.40	-2.68
1457769_at	1457769_at	2.76	4.55	3.56	2.40	2.93	2.98	4.60	6.20
1457805_at	1457805_at	-2.05	-12.19	-13.79	-10.40	-14.82	-14.48	-2.99	-2.60
1458535_at	1458535_at	11.25	7.62	7.67	7.75	6.15	9.60	9.63	9.65
1459260_at	1459260_at	4.35	6.31	5.09	3.44	5.40	5.76	2.94	4.76
1433695_at	1500041B16Rik	14.76	6.18	2.57	2.44	2.32	2.75	8.72	11.61
1456720_at	1500041B16Rik	14.13	7.12	2.16	2.07	3.05	2.29	9.39	12.43
1459253_at	1700023H06Rik	20.53	11.94	8.15	7.11	8.26	7.12	39.38	33.06
1419327_at	2210010A19Rik	-28.13	-15.11	-19.61	-21.63	-25.80	-20.40	-18.52	-19.92
1434175_s_at	2210010N04Rik	-3.64	-2.97	-2.90	-1.07	-1.18	-1.59	-2.01	-3.72
1436679_at	2210010N04Rik	-4.12	-4.00	-3.11	1.11	-1.34	-1.80	-2.09	-3.74
1428039_at	2310040A13Rik	-6.54	-6.36	-3.19	-2.54	-2.72	-6.84	-6.64	-4.55
1428256_at	2310047H23Rik	5.13	3.45	7.35	6.99	7.68	7.69	5.37	2.80

1429509_at	2600001B17Rik	2.69	3.92	3.52	2.59	3.58	2.74	3.86	3.45
1455657_at	2610207I05Rik	3.09	2.66	2.53	4.02	3.18	3.69	4.07	3.35
1431141_at	2610507I01Rik	-4.71	-10.59	-10.64	-4.42	-7.24	-10.19	-11.15	-9.06
1453749_at	2610507I01Rik	-3.05	-6.19	-6.79	-5.85	-6.39	-7.25	-10.94	-11.83
1451799_at	2610528H13Rik	3.68	3.32	2.93	2.56	3.86	3.13	3.03	2.03
1438575_a_at	2900056M20Rik	-10.60	-6.11	-4.95	-5.39	-4.95	-5.38	-4.36	-5.66
1438576_x_at	2900056M20Rik	-6.51	-3.57	-3.16	-4.70	-3.45	-3.60	-3.23	-3.71
1431478_at	3110035G12Rik	-2.80	-2.23	-3.99	-4.34	-1.79	-4.23	-3.39	-3.38
1458318_at	3110047M12Rik	-2.46	-4.56	-3.49	-3.65	-1.62	-3.99	-2.25	-2.32
1436388_a_at	3830406C13Rik	3.81	5.46	4.36	3.16	3.42	3.61	3.74	4.41
1419730_at	4631427C17Rik	10.99	10.46	10.92	13.64	30.15	21.48	6.06	6.99
1452703_at	4631427C17Rik	6.02	5.34	5.30	6.87	7.91	8.76	3.49	2.40
1454353_at	4833420D23Rik	-4.24	-4.86	-3.32	-3.35	-3.59	-4.97	-5.08	-4.78
1420329_at	4930455C21Rik	4.06	2.36	2.10	2.33	2.20	2.15	2.08	2.65
1435827_at	4933404O12Rik	-5.03	-3.21	-5.35	-4.36	-3.15	-2.57	-5.15	-4.81
1439327_at	4933426F18Rik	-2.46	-4.23	-5.08	-4.51	-2.80	-1.80	-2.67	-3.76
1433177_at	4933427C19Rik	-6.37	-3.49	-2.98	-4.49	-2.39	-3.55	-2.74	-2.59
1441050_at	5730526G10Rik	-2.39	-12.28	-36.93	-7.87	-21.36	-18.49	-22.70	-22.75
1431266_at	5830433G22Rik	-4.41	-7.39	-3.36	-2.40	-2.55	-1.85	-3.21	-4.02
1441071_at	5830474E16Rik	-37.54	-15.40	-11.57	-26.72	-17.09	-9.61	-8.72	-18.38
1432880_at	6820402A03Rik	-12.83	-16.55	-13.88	-18.72	-8.51	-12.70	-10.32	-18.28
1426535_at	9630046K23Rik	4.37	3.63	3.88	1.96	2.04	1.82	2.59	2.29
1421840_at	Abca1	-69.19	-52.00	-50.35	-19.90	-36.36	-35.88	-49.99	-62.45
1441945_s_at	Abhd14a	-2.52	-3.74	-3.98	-1.83	-2.54	-3.62	-4.09	-4.32
1441975_at	Acpp	6.69	3.22	8.14	8.00	5.40	9.16	14.32	11.08
1436678_at	AI844814	9.23	4.65	9.05	4.95	7.14	8.42	5.18	4.53
1434729_at	AK129302	7.91	8.60	8.53	6.69	5.54	6.59	11.48	12.10
1450455_s_at	Akr1c12	28.32	36.37	63.65	31.75	36.05	35.23	28.99	26.53
1418672_at	Akr1c13	27.82	33.26	52.70	30.67	32.89	35.68	26.09	25.88
1435193_at	Angptl6	8.01	4.18	6.19	3.01	4.01	3.74	2.48	2.11
1444128_at	Arhgap26	-9.79	-6.64	-8.07	-14.96	-16.63	-7.60	-16.80	-17.72
1423061_at	Arvcf	-5.56	-5.68	-5.55	-3.84	-7.06	-4.06	-6.64	-5.02
1421466_at	Asb10	-7.17	-17.82	-8.91	-6.30	-4.59	-2.52	-18.07	-10.60
1426015_s_at	Asph	-4.21	-3.77	-2.38	-2.33	-2.05	-2.81	-2.12	-2.11
1445014_at	AU019157	13.03	13.09	32.71	18.27	32.39	25.20	32.60	17.52

1435034_at	AW060207	-2.83	-3.33	-4.05	-3.84	-3.80	-4.01	-3.11	-3.10
1454984_at	AW061234	-17.55	-32.91	-6.40	-2.68	-4.60	-3.26	-3.38	-3.77
1440171_x_at	BB026409	-3.89	-4.93	-2.33	-2.08	-2.29	-1.94	-6.48	-3.52
1440218_at	BC040758	15.01	9.28	92.37	47.37	45.03	44.55	14.95	5.59
1429048_at	Bloc1s2	6.68	7.06	5.94	4.93	5.05	5.51	7.26	4.69
1436194_at	C330008K14Rik	5.21	3.38	2.97	1.71	1.45	1.61	4.62	3.55
1459603_at	C330008K14Rik	13.59	2.84	8.69	3.64	5.10	3.65	3.57	3.02
1443584_at	C430010P07Rik	2.35	3.11	2.71	2.75	3.41	3.57	2.27	3.14
1445510_at	C79601	3.47	6.95	5.55	3.76	7.84	13.34	2.11	2.86
1444401_at	C80913	17.34	14.01	27.00	27.06	31.65	28.03	28.70	23.73
1422710_a_at	Cacna1h	-18.26	-11.70	-18.54	-16.35	-18.07	-17.74	-18.77	-19.17
1417420_at	Ccnd1	3.95	3.69	2.33	1.90	1.90	3.26	7.65	4.32
1430895_at	Ccni	-2.58	-3.22	-3.36	-2.37	-2.51	-1.92	-3.34	-4.83
1424727_at	Ccr5	2.76	25.67	35.60	41.72	48.56	35.80	10.83	3.95
1426120_a_at	Cd244	2.52	3.08	2.57	6.09	7.75	5.40	2.80	2.42
1449991_at	Cd244	3.19	3.09	2.14	6.48	6.93	5.38	2.76	2.51
1443087_at	Cdc23	2.58	3.81	2.76	2.09	2.67	2.52	3.26	2.77
1435231_at	Coq4	15.99	9.53	8.71	22.45	16.98	19.46	8.41	10.75
1418476_at	Crlf1	-13.70	-12.99	-4.33	3.50	2.38	4.07	-14.72	-7.11
1425286_at	Crygn	8.19	4.62	5.94	1.98	3.41	3.43	2.13	2.63
1418989_at	Ctse	48.68	49.81	44.20	59.44	61.35	61.46	75.69	56.84
1446972_at	D15Wsu126e	-2.20	-3.58	-5.11	-4.43	-13.83	-21.14	-3.09	-7.41
1450868_at	D8Ertd354e	3.29	4.69	2.70	4.28	5.62	4.11	5.00	5.03
1419130_at	Deadc1	5.30	9.84	4.73	5.50	5.11	5.70	6.97	12.84
1448892_at	Dock7	71.11	25.10	17.37	53.47	51.81	51.56	17.22	2.29
1416600_a_at	Dscr1	6.18	7.76	3.36	1.79	-1.10	1.47	2.73	5.88
1434472_at	Dusp3	-2.78	-3.74	-4.42	-1.09	-1.63	-1.77	-3.18	-3.12
1421213_at	Edaradd	8.51	7.08	3.01	2.40	2.58	4.83	4.57	11.31
1433133_at	Edaradd	7.01	3.97	2.56	2.49	2.95	3.20	3.31	9.18
1437800_at	Edaradd	4.92	4.00	2.05	1.58	2.11	3.21	2.73	6.81
1444335_at	Edem2	-3.09	-3.43	-2.76	-2.94	-2.20	-2.48	-2.56	-2.11
1417235_at	Ehd3	48.01	69.85	16.63	10.96	8.88	13.81	45.21	57.81
1417236_at	Ehd3	6.01	9.20	3.32	2.11	2.67	2.35	6.12	6.56
1420491_at	Eif2s1	-6.38	-4.56	-3.27	-5.79	-4.38	-5.99	-4.92	-4.43
1417403_at	Elov16	3.27	3.99	2.89	4.51	5.29	5.94	4.86	6.62

1417404_at	Elov16	3.38	3.85	3.41	4.69	5.05	5.81	5.46	5.65
1442656_at	Elov16	3.73	5.64	4.26	5.30	7.67	8.98	9.86	10.33
1445062_at	Elov16	2.38	3.03	2.78	3.58	4.84	4.75	4.47	5.72
1440640_at	Fancc	-4.35	-12.63	-5.64	-6.60	-3.17	-14.36	-5.02	-8.87
1443621_at	Fbxo39	6.14	8.97	6.72	13.56	10.30	8.54	13.64	14.09
1460434_at	Fundc2	-3.38	-2.94	-5.41	-7.73	-5.12	-3.24	-2.50	-2.15
1426704_at	Gak	3.98	2.75	2.66	2.39	2.64	2.53	2.99	3.40
1455599_at	Gfod1	-3.03	-4.15	-2.50	-1.66	-2.13	-1.74	-3.02	-2.89
1437522_x_at	Gh	3.60	5.21	2.91	1.07	-1.26	-1.12	2.27	2.55
1456595_x_at	Gh	4.44	5.75	4.18	2.38	2.10	1.14	2.02	2.15
1460613_x_at	Gh	4.63	7.58	5.10	1.11	1.52	1.34	2.26	2.22
1449220_at	Gimap3	-5.59	-11.18	-5.41	-4.24	-5.84	-11.03	-3.78	-8.75
1456335_at	Gm106	3.42	3.64	4.24	3.70	3.30	3.34	7.03	4.37
1423689_a_at	Gpsm1	-4.07	-3.83	-2.56	-1.87	-1.81	-2.63	-5.21	-3.12
1425614_x_at	H2-D1	-29.62	-27.44	-30.12	-45.44	-45.06	-47.98	-28.72	-35.76
1427651_x_at	H2-D1	-27.04	-28.14	-24.49	-38.40	-45.62	-47.80	-32.28	-31.68
1451593_at	H2-D1	-8.99	-7.98	-8.64	-13.73	-12.51	-10.20	-11.05	-11.87
1452544_x_at	H2-D1	-30.73	-25.18	-29.04	-73.64	-48.87	-55.77	-37.83	-38.23
1422892_s_at	H2-Ea	-53.88	-51.32	-52.91	-47.29	-54.62	-53.50	-54.71	-56.75
1450582_at	H2-Q5	-3.53	-2.18	-3.34	-3.08	-4.83	-3.57	-3.25	-3.97
1440145_at	H60	2.31	3.64	3.38	2.57	2.24	2.41	4.08	5.71
1448631_a_at	Hipk2	-5.41	-3.07	-2.56	-1.58	-1.69	-6.63	-3.11	-2.23
1424032_at	Hvcn1	-13.98	-4.79	-3.93	-3.12	-4.90	-5.03	-11.22	-28.32
1417793_at	Iigp2	-2.84	-4.59	-2.66	-2.37	-3.84	-4.55	-2.56	-2.69
1425454_a_at	Il12a	4.73	4.03	5.25	1.54	1.54	1.78	2.05	2.13
1426214_at	Imp4	-6.64	-2.21	-3.73	-3.60	-3.95	-6.56	-4.96	-2.39
1430002_at	Iqcf1	4.34	5.66	6.22	4.88	3.54	5.78	5.32	4.94
1425050_at	Isoc1	2.63	3.11	2.88	4.02	3.93	4.20	2.06	3.15
1433815_at	Jakmip1	-3.84	-5.99	-6.24	-3.68	-2.63	-3.34	-2.07	-4.69
1428837_at	Klhl14	6.89	3.10	5.03	2.35	2.17	2.85	3.87	5.41
1428091_at	Klhl7	3.35	3.24	6.17	6.07	6.52	6.69	5.00	4.39
1452660_s_at	Klhl7	3.06	2.91	3.90	3.63	4.07	4.07	2.96	2.70
1460245_at	Klrd1	-2.97	-55.02	-3.01	2.13	2.87	3.11	-52.56	-40.67
1435472_at	Kremen1	-3.16	-5.29	-3.32	-2.84	-2.74	-2.79	-2.50	-11.17
1445252_at	Kremen1	-3.35	-3.39	-2.27	-2.92	-2.13	-1.87	-3.23	-3.41

1440435_at	Ky	8.27	22.82	4.77	7.01	3.85	4.24	7.90	19.99
1427011_a_at	Lancl1	-2.91	-2.65	-2.55	-2.88	-2.92	-3.10	-4.28	-2.92
1439651_at	Lmo4	-4.31	-3.40	-8.76	-6.58	-7.12	-12.58	-3.89	-9.07
1439065_x_at	LOC434637	12.28	11.30	9.98	9.93	11.13	18.58	2.19	10.50
1437854_at	Lrrc18	3.70	4.17	8.39	4.33	6.45	5.17	3.18	2.15
1456060_at	Maf	5.10	8.98	2.38	1.10	1.22	-1.81	2.82	4.04
1418936_at	Maff	2.82	4.75	3.27	4.17	2.49	2.48	2.39	2.10
1446565_at	Man1b	-16.02	-2.01	-5.99	-7.80	-11.19	-10.29	-2.85	-4.94
1454158_at	Mpp7	5.77	6.22	2.71	2.85	2.54	3.32	3.22	5.17
1430771_a_at	Msh5	-8.33	-9.55	-4.89	-3.92	-2.90	-2.52	-3.79	-6.16
1417706_at	Naglu	-2.51	-2.62	-2.73	-1.15	-1.53	-2.49	-2.34	-2.91
1455556_at	Notch2	7.48	3.23	8.01	5.34	4.20	2.19	3.61	2.28
1426155_a_at	Osr2	-3.64	-34.67	-6.33	-16.45	-33.64	-38.65	-12.55	-28.76
1425521_at	Paip1	2.44	4.08	4.31	3.72	4.74	4.30	2.08	2.21
1441955_s_at	Paip1	3.28	5.71	5.01	5.75	7.31	6.46	3.89	3.67
1433658_x_at	Pcbp4	-2.28	-6.21	-2.83	-3.92	-2.67	-3.60	-3.11	-4.76
1443618_at	Pdzd2	-3.97	-2.35	-11.64	-10.91	-12.07	-5.14	-5.95	-7.21
1439167_at	Pecr	-2.61	-2.52	-2.42	-1.90	-2.02	-3.12	-2.70	-2.44
1452179_at	Phf17	5.87	4.47	2.91	1.79	2.44	1.46	10.93	2.34
1433462_a_at	Pi4k2a	-2.54	-5.03	-3.38	-1.83	-2.53	-2.49	-6.63	-7.49
1428556_at	Pigy	-2.15	-5.54	-5.06	-4.28	-9.67	-4.59	-2.69	-3.40
1429831_at	Pik3ap1	6.47	3.97	5.04	4.14	3.79	5.15	4.28	3.23
1439197_at	Pik4cb	7.56	4.92	6.19	3.92	5.80	4.38	6.11	5.56
1426448_at	Pja1	2.15	8.28	23.51	4.24	1.63	2.39	14.26	10.45
1456047_at	Pla2g4b	5.34	5.06	4.05	2.32	3.99	4.48	2.97	4.85
1443141_at	Ppt1	-2.37	-5.35	-2.31	-2.08	-2.18	-1.71	-16.98	-5.41
1430148_at	Rab19	-42.55	-12.07	-42.08	-39.04	-43.62	-42.35	-38.22	-25.65
1416527_at	Rab32	5.94	10.21	3.42	3.75	5.63	5.84	6.53	14.44
1457178_at	Rabgap1l	-6.70	-7.49	-6.02	-33.19	-37.63	-35.98	-4.80	-7.80
1439851_at	Rabl5	-7.75	-9.80	-4.76	-1.82	-1.81	-2.33	-18.88	-21.58
1438030_at	Rasgrp3	-3.72	-4.49	-5.24	-7.41	-8.41	-5.76	-4.21	-5.94
1444454_at	Rb1	4.61	4.93	3.11	2.83	2.83	3.28	2.62	3.40
1423700_at	Rfc3	-2.15	-2.41	-2.86	-2.84	-3.01	-2.53	-2.88	-2.38
1432538_a_at	Rfc3	-2.13	-2.26	-2.74	-2.54	-2.42	-2.74	-2.89	-2.32
1420398_at	Rgs18	-63.32	-43.97	-2.96	-8.25	-7.13	-2.49	-40.63	-68.33

1449856_at	Rgs18	-26.27	-35.15	-2.73	-5.90	-5.64	-3.16	-11.69	-33.20
1460670_at	Riok3	-5.96	-6.87	-8.29	-11.62	-10.37	-9.81	-5.51	-6.15
1447101_at	Rnf122	-2.37	-4.65	-2.85	-2.39	-3.22	-5.51	-4.42	-3.49
1454857_at	Rnf122	-2.17	-3.09	-3.48	-2.99	-7.00	-1.71	-5.79	-3.13
1423515_at	Scn8a	-20.17	-8.98	-12.98	-6.98	-13.84	-20.22	-2.62	-11.13
1458693_at	Scn8a	-18.50	-20.28	-20.31	-10.57	-20.98	-19.72	-4.09	-13.34
1439882_at	Sec23ip	3.90	6.87	3.63	4.34	4.23	4.45	6.63	7.39
1419667_at	Sgcb	6.27	4.34	5.67	6.31	4.57	5.32	3.48	4.14
1419668_at	Sgcb	5.15	3.40	4.83	3.91	4.51	5.05	3.57	4.16
1421271_at	Sh3md2	4.22	2.75	4.21	1.53	1.60	2.43	2.86	2.54
1442402_at	Sh3rf1	2.67	3.01	3.69	2.28	1.54	1.90	2.23	2.34
1445178_at	Sh3rf1	2.33	3.87	5.05	-1.06	2.00	2.25	2.66	2.28
1455149_at	Sh3rf1	3.30	3.73	4.77	1.38	1.62	2.62	2.97	3.14
1417584_at	Slc11a2	-3.57	-7.44	-9.37	-2.76	-9.00	-3.67	-6.43	-4.53
1452078_a_at	Slc11a2	-2.81	-3.02	-4.14	-2.27	-2.81	-3.25	-2.69	-2.89
1417600_at	Slc15a2	-100.00	-100.00	-96.31	-100.00	-100.00	-100.00	-2.01	-100.00
1438824_at	Slc20a1	3.71	8.67	7.06	1.56	1.58	1.48	2.07	2.56
1426634_at	Slc5a9	5.03	20.70	6.31	12.88	14.96	15.04	9.57	55.42
1439494_at	Slc5a9	3.99	20.35	6.52	8.02	12.35	12.26	8.28	47.55
1448377_at	Slpi	-11.13	-7.66	-11.50	-1.77	-1.82	-1.28	-2.49	-2.95
1428396_at	Smurf1	-5.49	-7.74	-5.67	-1.96	-2.61	-2.12	-8.74	-2.35
1435603_at	Sned1	3.36	2.30	5.35	4.56	5.36	4.88	3.18	4.19
1459764_x_at	Snx10	-2.25	-2.75	-2.12	-4.41	-2.82	-2.32	-5.08	-3.99
1438543_at	Spata13	-19.91	-41.61	-43.00	-20.97	-29.01	-43.88	-12.70	-46.07
1417616_at	St6galnac2	6.73	12.37	10.21	11.33	13.51	12.55	3.10	9.17
1427345_a_at	Sult1a1	-6.06	-4.69	-3.01	-2.22	-1.77	-2.83	-7.58	-7.70
1431044_at	Thoc1	2.47	2.12	5.56	3.06	3.99	3.77	4.48	2.66
1446625_at	Tmem100	-9.51	-23.45	-14.67	-31.55	-45.16	-35.83	-6.91	-12.54
1449533_at	Tmem100	-11.46	-44.20	-11.93	-62.37	-100.00	-78.54	-4.62	-25.52
1449969_at	Tmod4	8.71	3.31	7.59	7.44	8.42	6.65	6.27	8.95
1425546_a_at	Trf	-67.44	-21.13	-66.57	-25.23	-16.30	-19.72	-69.49	-60.07
1437432_a_at	Trim12	-2.01	-2.07	-80.71	-83.79	-100.00	-100.00	-2.39	-2.17
1424568_at	Tspan2	-4.63	-2.52	-2.32	-11.14	-17.47	-9.39	-3.75	-47.67
1432417_a_at	Tspan2	-5.47	-2.15	-2.24	-7.14	-19.04	-11.77	-2.89	-21.28
1454673_at	Wasf2	2.56	2.01	2.52	3.17	2.97	2.96	2.23	2.08

1446905_at	Waspip	-6.14	-14.40	-21.85	-6.21	-6.49	-6.48	-3.83	-3.61
1440400_at	X83325	2.44	2.54	5.64	2.43	3.26	3.80	2.25	2.93
1456770_at	Zfp14	3.15	3.22	2.88	-1.99	2.15	2.17	2.46	2.07
1431747_at	Zw10	-2.34	-2.03	-2.96	-2.73	-1.93	-1.52	-2.46	-2.83

*Fold change from experinents using the Affymetrix Mouse Genome 430, v2.0 GeneChip® arrays

Supplementary Table 2. Genes that are significantly differentially regulated in response to Rag DSBs that are Atm dependent, but independent of NFκB activation

		Relative fold change* for each sample/average of the RAG2 ^{-/-} samples							
Affymetrix ID	Sequence Name	A.1	A.2	A.3	A.3ΔN1	A.3ΔN2	A.3ΔN3	AA.1	AA.2
1431213_a_at	1300007C21Rik	22.30	15.21	24.81	22.07	18.69	17.92	-2.98	-15.35
1455869_at	1300007C21Rik	100.00	100.00	100.00	100.00	100.00	100.00	4.15	2.30
1436296_x_at	1436296_x_at	-2.77	-5.00	-3.44	-4.58	-6.69	-4.16	-1.25	-2.12
1438435_at	1438435_at	7.93	9.22	25.37	37.34	42.47	53.12	-2.27	-2.10
1440305_at	1440305_at	-7.84	-2.64	-2.62	-3.16	-3.50	-3.02	2.23	2.35
1443455_at	1443455_at	-3.41	-10.38	-13.71	-12.56	-11.30	-9.65	1.57	-5.89
1458599_at	1458599_at	3.08	15.83	4.02	3.72	3.97	7.39	1.26	3.35
1438666_at	1700082C01Rik	3.45	3.07	2.65	4.02	4.07	3.42	-1.16	-1.02
1424683_at	1810015C04Rik	7.57	3.10	72.39	52.60	59.63	56.08	-3.27	1.06
1450505_a_at	1810015C04Rik	5.41	2.51	37.64	27.04	26.17	27.23	1.66	1.13
1433645_at	2210409B22Rik	-6.70	-2.76	-2.15	-7.81	-7.01	-8.35	1.02	-6.51
1452799_at	2310009E04Rik	3.29	2.72	2.23	7.26	6.50	4.44	1.74	4.86
1429068_at	2810488G03Rik	-4.13	-3.15	-3.02	-2.43	-2.98	-3.02	-1.91	-1.56
1429503_at	2900024C23Rik	2.12	2.80	2.56	3.54	4.32	4.59	1.88	4.18
1439279_at	3110007F17Rik	13.95	2.91	10.98	10.97	18.52	20.80	1.04	1.65
1452640_at	3110007F17Rik	5.51	2.72	5.61	8.21	8.91	11.00	-1.34	-1.10
1428004_at	3300001G02Rik	3.16	6.20	9.51	3.01	2.96	4.05	-1.13	-1.39
1452365_at	4732435N03Rik	6.14	3.58	5.34	3.50	6.99	6.68	1.53	7.18
1452366_at	4732435N03Rik	4.56	3.11	3.19	5.10	4.66	5.73	1.11	6.03
1433202_at	6030400A10Rik	-19.84	-16.68	-15.88	-14.83	-6.51	-20.32	-2.15	-3.48
1433203_at	6030400A10Rik	-31.24	-15.56	-20.20	-100.00	-100.00	-86.33	-1.65	-5.28
1443017_at	6030400A10Rik	-23.98	-13.03	-15.52	-52.66	-58.76	-56.79	-1.29	-5.48
1458518_at	6030400A10Rik	-39.84	-18.59	-19.45	-37.71	-41.44	-46.83	-1.75	-6.35
1434313_at	6330407D12Rik	-4.68	-2.76	-2.41	-2.24	-2.19	-2.08	-1.57	-3.19
1457096_at	6430520M22Rik	-9.44	-27.77	-12.54	-24.30	-8.53	-7.57	-1.84	-1.17
1441550_at	9330184L24Rik	5.42	12.56	13.95	9.53	16.00	14.24	-1.41	4.27
1429339_a_at	Acad10	-5.00	-4.05	-7.36	-3.75	-3.20	-3.00	1.40	-3.43
1448987_at	Acadl	-2.40	-2.72	-3.54	-2.30	-2.61	-2.56	-1.76	-3.00
1431609_a_at	Acp5	-2.37	-4.95	-7.18	-19.45	-27.68	-61.72	1.64	-1.20

1438716_at	AI451617	-2.81	-2.64	-14.29	-7.09	-34.73	-12.69	-1.57	-1.90
1417826_at	Akr1e1	3.85	6.89	3.62	5.31	3.67	5.67	4.37	1.29
1452124_at	Ank3	-9.05	-3.02	-9.21	-8.78	-5.21	-9.72	-6.19	1.58
1424176_a_at	Anxa4	8.05	2.74	7.75	6.15	7.32	6.87	1.41	2.61
1447184_at	AU021760	3.01	5.08	6.02	13.36	19.77	10.96	2.66	-2.25
1416824_at	B230118H07Rik	2.62	2.21	5.64	10.05	8.90	7.40	1.29	-2.35
1442019_at	B230343A10Rik	3.23	5.23	6.04	4.28	4.79	5.32	5.07	1.96
1459455_at	B930007L02Rik	-2.59	-4.63	-5.52	-4.77	-6.08	-5.27	-2.18	-1.14
1419406_a_at	Bcl11a	2.85	3.09	4.25	3.22	2.85	3.75	-1.27	1.50
1456632_at	Bcl11a	3.01	2.27	3.41	2.18	2.13	2.23	-1.41	2.26
1428490_at	C1galt1	-2.57	-2.46	-2.63	-4.55	-5.17	-3.96	-1.27	-1.51
1453957_a_at	C78205	10.02	9.23	20.58	29.66	31.22	42.75	12.11	1.52
1448676_at	Camk2b	3.87	7.15	4.47	16.85	19.38	18.89	1.64	-1.08
1457816_at	Casp9	-3.41	-3.26	-2.94	-5.51	-2.23	-5.55	-1.94	-3.98
1448626_at	Cdk5rap1	-3.63	-3.73	-3.78	-2.86	-2.88	-3.16	-5.18	1.38
1420441_at	Cenpc1	-2.14	-2.48	-2.56	-4.25	-3.18	-2.79	-1.23	-1.60
1442262_at	Ches1	-8.26	-7.02	-10.00	-8.52	-7.93	-9.11	-1.32	-1.61
1425856_at	Cib1	3.04	2.62	11.90	5.75	4.75	4.93	1.66	1.86
1421267_a_at	Cited2	-2.97	-5.63	-3.45	-5.92	-7.38	-5.55	1.20	-1.09
1452207_at	Cited2	-2.16	-2.79	-2.64	-3.43	-4.79	-4.34	1.47	1.13
1419693_at	Colec12	24.00	2.50	62.71	3.11	5.10	5.43	1.49	-1.14
1434272_at	Cpeb2	-20.03	-13.06	-13.10	-100.00	-54.33	-49.65	-1.75	-3.87
1454653_at	Cpne9	-4.34	-5.58	-6.19	-5.16	-8.41	-3.14	-1.22	-1.20
1438156_x_at	Cpt1a	-3.42	-2.07	-3.67	-4.55	-3.67	-3.19	-1.02	-1.14
1460409_at	Cpt1a	-3.39	-2.19	-3.31	-3.78	-2.61	-2.60	1.60	1.02
1426951_at	Crim1	9.62	19.91	35.20	46.49	56.49	47.10	7.60	-2.01
1452253_at	Crim1	11.44	16.46	27.94	32.22	37.37	31.67	7.99	1.13
1458497_at	Crim1	2.89	5.15	5.40	8.13	7.72	5.59	1.45	1.04
1459632_at	Crim1	15.04	11.60	29.40	41.78	52.85	35.20	5.83	1.09
1420731_a_at	Csrp2	5.13	4.99	4.10	3.52	3.07	3.31	1.64	2.70
1451447_at	Cuedc1	-3.88	-3.48	-4.16	-10.13	-12.43	-7.56	1.94	-5.94
1422978_at	Cybb	12.21	9.84	24.32	7.60	7.46	10.08	10.31	-1.81
1436778_at	Cybb	10.55	7.51	18.55	5.72	6.47	7.99	7.83	-1.95
1436779_at	Cybb	16.76	9.05	31.92	7.48	10.04	12.15	14.53	-1.27
1424677_at	Cyp2j9	21.19	7.29	8.17	16.51	25.24	25.71	1.05	1.14

1428738_a_at	D14Ertd449e	-2.17	-3.71	-4.58	-3.25	-3.30	-2.26	-1.92	-2.26
1417821_at	D17H6S56E-5	3.05	2.48	4.45	2.20	2.04	2.06	1.32	-1.29
1437840_s_at	D2hgdh	-2.55	-2.96	-2.93	-4.16	-5.41	-3.38	-3.38	-1.96
1455118_at	D9Ertd402e	4.38	5.58	4.04	5.34	4.61	5.26	1.42	2.64
1425315_at	Dock7	27.28	11.71	7.04	14.65	25.63	21.62	7.24	-1.14
1440615_at	Dusp16	4.60	2.73	4.32	3.89	5.07	5.84	-1.17	-1.10
1436372_a_at	E530001F21Rik	-2.07	-2.59	-2.59	-3.17	-3.72	-2.94	-1.53	-3.01
1423326_at	Entpd1	-2.13	-4.16	-2.85	-3.21	-3.00	-3.25	1.24	-2.21
1450939_at	Entpd1	-2.54	-14.62	-3.35	-4.09	-3.53	-3.77	1.22	-1.98
1453586_at	Entpd1	-3.88	-22.42	-6.48	-4.94	-3.67	-2.10	1.44	-2.72
1424324_at	Esco1	-3.78	-3.25	-4.26	-4.01	-5.04	-3.66	-1.86	-3.29
1416236_a_at	Eva1	-13.58	-40.73	-34.86	-35.82	-60.29	-57.21	5.15	2.82
1416237_at	Eva1	-11.67	-10.93	-8.63	-8.13	-9.52	-11.01	5.83	1.83
1448265_x_at	Eva1	-16.44	-40.89	-35.07	-38.58	-44.04	-42.40	5.11	2.41
1457424_at	Eya1	-9.67	-32.70	-12.79	-25.86	-22.68	-33.51	2.54	-34.56
1422327_s_at	G6pd2	-2.05	-2.04	-2.12	-2.58	-2.21	-2.16	-1.59	-4.79
1452452_at	gag	-17.80	-16.35	-13.00	-16.78	-22.00	-19.77	-1.12	-1.36
1415698_at	Golph2	3.58	2.40	6.08	6.56	7.17	9.26	1.15	2.32
1425477_x_at	H2-Ab1	-8.53	-31.95	-27.16	-31.15	-35.88	-32.71	-1.20	-3.83
1450648_s_at	H2-Ab1	-6.00	-38.21	-9.59	-61.17	-100.00	-98.18	1.17	-2.34
1451721_a_at	H2-Ab1	-4.82	-13.73	-8.20	-38.19	-21.33	-42.48	1.48	-3.01
1421358_at	H2-M3	-2.34	-2.29	-2.63	-2.94	-2.85	-2.85	1.35	1.08
1438018_at	Hook1	11.45	5.60	17.90	22.06	23.09	24.11	-1.09	6.69
1439173_at	Hook1	4.27	2.71	6.28	7.69	7.83	9.74	1.17	2.86
1419286_s_at	Ift81	5.29	3.67	5.39	18.35	28.06	33.89	2.83	-1.07
1422610_s_at	Igf2bp3	6.63	4.90	12.77	22.96	25.68	27.00	8.82	1.05
1452843_at	Il6st	10.77	11.38	2.67	10.09	13.62	10.91	1.46	1.29
1421670_a_at	Irak4	-13.27	-4.05	-6.22	-4.59	-3.40	-4.20	-1.66	-2.11
1417409_at	Jun	3.98	2.31	3.90	6.95	6.26	5.24	-1.45	-1.67
1435342_at	Kcnk6	3.04	3.22	2.71	5.39	5.81	5.72	2.57	-1.45
1429063_s_at	Kif16b	3.43	3.93	3.11	3.18	3.85	4.72	2.91	-5.52
1419826_at	Kif17	8.12	8.80	3.44	12.43	14.24	12.40	-1.30	2.12
1419827_s_at	Kif17	5.22	6.88	4.06	12.02	12.86	11.15	1.68	1.80
1422762_at	Kif17	3.32	3.91	3.19	7.48	8.17	6.53	1.24	1.65
1418429_at	Kif5b	-2.29	-2.03	-2.92	-3.19	-2.30	-2.79	-2.27	-1.86

1444003_at	Lincr	22.48	10.84	51.24	7.03	6.88	3.27	6.34	-2.13
1451962_at	LOC213481	-2.99	-6.22	-4.43	-6.11	-6.63	-6.85	1.57	-3.15
1442213_at	LOC552908	18.45	5.50	14.46	14.74	23.38	22.29	1.57	1.53
1436107_at	Lsm8	-9.43	-11.90	-6.77	-14.54	-8.76	-13.42	-1.87	-1.37
1419135_at	Ltb	2.66	4.19	6.09	3.99	3.46	2.26	-9.54	-22.62
1419208_at	Map3k8	5.59	5.56	5.93	5.11	4.45	3.60	-1.00	2.65
1435358_at	Mrps23	-2.58	-2.71	-3.49	-3.93	-8.03	-6.93	1.21	-6.25
1424433_at	Msrb2	4.36	3.35	2.96	5.56	5.82	7.08	3.59	-3.85
1449981_a_at	Nat2	3.36	4.53	4.06	3.59	3.59	3.99	1.92	1.83
1436363_a_at	Nfix	10.55	4.44	9.49	17.89	19.69	17.38	1.82	1.46
1436364_x_at	Nfix	5.42	3.10	5.04	11.83	11.26	15.25	1.82	1.48
1420983_at	Pctp	-3.78	-5.76	-4.28	-15.32	-13.51	-6.89	-1.26	-2.48
1416712_at	Pepd	17.20	8.92	11.85	14.19	11.54	12.11	-2.07	-3.35
1453179_at	Phca	2.09	4.78	4.51	7.37	7.77	9.19	1.74	1.36
1422743_at	Phka1	-3.35	-6.03	-7.90	-87.10	-100.00	-100.00	2.34	-3.31
1435567_at	Phka1	-3.86	-7.48	-6.60	-100.00	-100.00	-100.00	2.47	-3.24
1435872_at	Pim1	-5.22	-8.77	-3.33	-10.27	-10.01	-7.95	2.58	1.77
1441870_s_at	Pkd2	8.89	4.92	6.30	3.13	4.27	4.50	1.03	1.80
1458764_at	Pla2g1b	-4.31	-5.33	-2.15	-5.05	-5.93	-4.81	-1.90	-2.71
1424284_at	Pomt1	-6.87	-4.33	-3.55	-6.71	-7.36	-5.06	1.64	-4.48
1420831_at	Qscn6	2.18	3.09	2.27	3.28	3.17	3.40	2.26	1.30
1437762_at	Rab39	5.17	4.26	7.17	2.90	2.08	3.63	4.43	1.40
1454953_at	Rnf157	-2.25	-4.60	-2.20	-2.40	-4.74	-3.11	-1.71	-2.62
1419480_at	Sell	12.29	8.74	14.87	19.35	20.95	20.61	-3.76	-2.15
1419481_at	Sell	9.59	7.48	13.01	16.53	16.11	16.98	-8.13	-2.19
1436100_at	Sh2d5	4.02	4.41	2.56	6.02	7.78	6.75	-1.23	3.59
1439434_x_at	Sh2d5	5.04	8.67	3.57	8.31	9.28	11.00	1.09	5.51
1426323_x_at	Siva	9.72	10.83	2.09	6.62	9.14	14.21	-1.93	3.60
1448568_a_at	Slc20a1	5.27	8.99	8.38	2.29	2.24	2.03	1.93	3.36
1423443_at	Slc4a8	-2.97	-3.27	-3.33	-4.31	-3.60	-3.95	-1.02	-1.90
1427049_s_at	Smo	12.07	7.30	4.28	5.43	6.20	8.89	1.32	1.13
1417644_at	Sspn	-30.04	-100.00	-84.90	-100.00	-100.00	-71.21	1.42	-4.70
1417645_at	Sspn	-40.56	-53.16	-54.49	-50.37	-57.08	-39.55	-1.24	-9.84
1435302_at	Taf4b	-9.59	-3.50	-2.28	-4.25	-8.32	-4.50	1.04	-3.36
1428425_at	Tgfbrap1	-2.74	-2.23	-2.66	-3.98	-2.73	-2.04	-1.45	-2.44

1428426_s_at	Tgfbrap1	-2.18	-2.08	-2.70	-2.46	-3.34	-2.21	-1.23	-2.27
1448529_at	Thbd	2.40	2.36	2.68	4.13	3.69	4.14	-2.05	6.05
1436212_at	Tmem71	2.42	2.19	2.32	2.07	2.02	2.42	1.39	2.29
1459568_at	Tmtc4	-2.51	-4.51	-4.01	-3.02	-2.50	-2.34	-1.87	1.23
1448297_a_at	Tnk2	-2.02	-2.08	-2.32	-2.40	-3.55	-2.26	-1.23	-1.22
1455124_at	Trim68	5.23	5.37	6.72	4.48	5.32	4.29	2.86	1.47
1443153_at	Trip11	-12.77	-5.54	-11.02	-6.02	-6.18	-9.30	-1.19	1.08
1451230_a_at	Wbp5	-2.41	-2.15	-100.00	-100.00	-100.00	-80.07	-1.11	-1.81
1446820_at	Zfp182	11.27	12.80	18.76	18.99	20.49	16.49	-1.02	15.63
1456504_at	Zfp182	23.95	26.45	27.23	29.50	42.37	38.34	-1.10	26.47
1459712_at	Zfp182	13.41	11.68	17.35	20.84	21.56	22.23	1.17	18.40
1428564_at	Zfp579	3.21	3.05	4.45	5.55	4.92	4.92	1.74	-2.32

*Fold change from experinents using the Affymetrix Mouse Genome 430, v2.0 GeneChip® arrays

Supplementary Table 3. Genes that are significantly differentially regulated in response to Rag DSBs that are dependent on Atm and NFκB

		Relative fold change* for each sample / average of the RAG2 ^{-/-} samples							
Affymetrix ID	Sequence Name	A.1	A.2	A.3	A.3ΔN1	A.3ΔN2	A.3ΔN3	AA.1	AA.2
1433936_at	0610010E21Rik	2.41	2.30	3.13	1.12	1.00	-1.01	-1.01	-1.04
1431008_at	0610037M15Rik	3.11	2.70	2.13	-1.89	-2.60	-1.59	1.97	1.80
1420311_s_at	1420311_s_at	-2.68	-3.91	-2.78	-3.42	-1.93	-2.70	-1.79	-1.60
1420313_x_at	1420313_x_at	-2.22	-4.01	-3.07	-2.19	-1.46	-2.34	-1.68	-1.90
1441150_x_at	1441150_x_at	2.51	2.58	5.53	1.71	1.98	2.61	1.93	1.13
1442074_at	1442074_at	7.30	3.59	2.90	-2.04	-1.93	-2.02	-3.45	1.13
1442783_x_at	1442783_x_at	3.40	2.19	2.34	1.44	2.56	2.57	1.87	1.84
1443051_at	1443051_at	5.43	5.16	2.88	1.87	2.14	1.86	-1.33	3.12
1445263_at	1445263_at	-4.23	-3.18	-3.35	-1.88	-2.76	-2.66	1.05	1.12
1445678_at	1445678_at	2.66	5.12	10.38	3.12	1.68	6.32	-1.09	10.41
1423989_at	2210010N04Rik	-2.49	-2.01	-2.14	1.26	1.06	-1.22	-2.00	-2.58
1459927_at	4833445I07Rik	2.20	2.98	2.99	-1.39	-1.10	-1.49	1.48	-1.24
1434572_at	4921508M14Rik	-14.64	-12.15	-36.33	-2.09	-1.75	-1.74	-1.90	-38.74
1444574_at	4930577N17Rik	2.03	2.20	2.09	1.27	1.71	1.45	1.63	1.55
1455032_at	9630037P07Rik	-2.38	-2.25	-2.60	-1.92	-1.84	-1.63	-1.28	-1.72
1427546_at	Abca8b	8.80	10.42	3.69	1.07	2.08	-1.33	7.68	1.31
1460078_at	AI415467	-4.04	-3.35	-3.82	1.42	-1.86	-3.64	-1.57	-1.04
1442018_at	AI426953	2.58	2.22	2.21	-2.21	-1.45	-1.11	1.37	1.54
1417294_at	Akr7a5	-2.05	-2.23	-2.53	-1.89	-2.29	-2.53	-1.55	-1.44
1422807_at	Arf5	-2.50	-2.66	-3.13	-2.17	-2.19	-1.74	-1.26	-1.61
1436074_at	AY078069	6.05	4.43	6.89	1.20	-1.53	1.13	1.76	-1.41
1457072_at	Bcl11a	2.91	2.21	3.29	1.82	2.37	2.37	-1.28	2.46
1418133_at	Bcl3	28.16	5.32	36.74	2.04	-1.21	3.43	1.34	-1.43
1444120_at	Bin1	-2.51	-2.00	-2.37	1.08	1.43	-1.20	-1.94	-1.91
1451417_at	Brca1	-2.04	-2.63	-2.37	-1.29	-1.38	-1.31	1.00	1.38
1419658_at	C920025E04Rik	12.49	5.91	7.85	1.91	1.73	3.60	1.97	3.10
1424633_at	Camk1g	5.71	4.40	3.09	-1.18	1.05	1.28	1.65	2.73
1429891_at	Capsl	2.63	3.29	2.99	-1.95	-1.82	-1.57	3.55	1.58
1426125_a_at	Casp9	-2.28	-2.51	-2.19	-1.41	-1.76	-2.02	-1.36	-2.50

1439221_s_at	Cd40	5.82	2.53	22.48	2.09	1.64	1.15	1.62	-1.36
1460218_at	Cd52	2.42	2.61	4.75	-1.03	1.07	-1.07	1.29	1.14
1418762_at	Cd55	2.97	3.74	3.38	1.43	1.61	2.14	1.02	1.81
1443906_at	Cd55	2.75	3.24	2.65	1.40	1.39	1.25	-1.22	1.72
1460242_at	Cd55	2.46	3.30	3.57	1.45	1.63	1.81	-1.36	1.82
1428735_at	Cd69	2.47	2.10	3.95	-1.25	-1.46	-1.39	-1.21	-1.69
1457952_at	Cd80	12.01	9.07	2.24	1.72	1.72	-1.52	1.72	1.67
1439352_at	Cdk2ap1	13.73	11.45	4.43	1.19	1.03	1.46	-1.84	1.88
1454268_a_at	Cyba	3.30	2.93	4.47	1.29	1.11	1.23	-1.06	-1.25
1417822_at	D17H6S56E-5	2.75	2.09	3.67	1.97	1.85	1.91	1.21	-1.30
1456111_at	D930028F11Rik	12.14	28.76	2.66	1.96	2.25	-1.90	32.55	-1.56
1419367_at	Decr1	3.68	2.30	3.09	2.22	1.76	2.18	-2.34	-5.10
1437927_at	Dlgh2	-5.93	-3.22	-3.81	-3.31	-2.73	-1.60	2.54	-3.95
1448830_at	Dusp1	7.33	4.86	4.12	2.41	2.39	1.67	3.12	1.88
1451218_at	Edem1	-2.51	-2.03	-2.16	-1.78	-1.89	-1.67	-1.17	-1.62
1418773_at	Fads3	2.73	2.92	2.47	2.94	2.20	1.21	-1.00	2.35
1442305_at	Gtpbp2	-2.40	-2.35	-2.08	-1.49	-1.37	-1.92	-1.28	-1.24
1451644_a_at	H2-Q1	3.85	3.31	2.23	-2.66	-1.77	-1.58	1.90	1.84
1432026_a_at	Ids	-3.04	-2.57	-3.12	-2.34	-1.73	-2.09	-1.10	-1.87
1438037_at	Ids	-3.13	-2.24	-4.29	-1.50	-1.88	-1.59	-1.06	-1.54
1417612_at	Ier5	5.34	6.03	2.90	1.63	1.72	2.54	-1.54	2.16
1417613_at	Ier5	13.94	16.59	2.56	1.21	1.12	2.52	-4.24	2.55
1460009_at	Ier5	5.11	4.59	2.55	-2.15	-1.24	1.83	-1.30	2.53
1451749_at	Irak4	-3.02	-2.54	-2.17	-1.65	-1.94	-1.58	-1.25	-1.66
1433634_at	Irf2bp2	2.81	3.19	2.16	1.48	1.58	1.37	1.57	1.34
1430597_at	Jakmip1	-2.04	-2.53	-3.08	-1.63	-1.91	-1.35	-1.37	-2.32
1429062_at	Kif16b	2.29	2.86	2.47	1.99	2.56	3.04	1.80	-2.66
1416251_at	Mcm6	-3.63	-3.51	-3.21	-1.24	-1.58	-1.45	-1.69	-3.19
1438852_x_at	Mcm6	-2.94	-2.63	-2.78	-1.91	-1.61	-1.55	-1.65	-2.00
1437250_at	Mreg	2.63	2.45	2.75	1.18	1.36	1.88	-2.85	-5.14
1455736_at	Mybpc2	4.79	3.72	2.01	1.21	-1.26	1.86	1.19	3.14
1452740_at	Myh10	-6.88	-3.79	-4.64	2.45	1.92	2.31	-12.08	2.22
1425902_a_at	Nfkb2	18.86	16.01	10.10	1.04	-1.13	-1.06	1.91	1.30
1431843_a_at	Nfkbie	3.87	3.00	3.98	-1.30	-1.16	-1.31	-1.05	-1.23
1458299_s_at	Nfkbie	4.02	3.32	4.14	-1.05	-1.10	-1.25	-1.17	-1.16

1418633_at	Notch1	2.54	3.03	2.78	1.68	1.20	1.38	1.10	-2.01
1418634_at	Notch1	2.23	2.47	2.54	1.54	1.25	1.03	-1.05	-2.47
1426657_s_at	Phgdh	4.02	2.80	3.04	-1.57	-1.33	-1.12	2.45	-1.48
1437621_x_at	Phgdh	3.22	2.21	2.38	-1.68	-1.62	-1.27	1.74	-1.61
1417216_at	Pim2	3.70	5.89	9.08	-1.44	-2.50	-2.42	-1.64	-8.23
1451698_at	Psrc1	15.02	24.79	3.63	1.94	1.18	6.30	-1.71	8.84
1422045_a_at	Ptpn12	-2.08	-2.45	-2.03	-1.41	-1.65	-1.46	-1.00	-1.08
1417856_at	Relb	3.26	2.47	2.95	-2.86	-2.50	-2.39	-1.25	-3.50
1449110_at	Rhob	3.19	3.34	3.54	-2.95	-1.93	1.10	-2.84	-1.41
1423986_a_at	Scotin	4.49	4.74	9.13	2.02	1.75	1.59	-1.11	-2.02
1437503_a_at	Scotin	3.51	3.64	5.97	1.86	1.75	1.56	-1.06	-1.91
1423543_at	Swap70	2.01	2.72	3.19	1.09	1.01	1.13	1.19	-1.17
1434225_at	Swap70	2.05	2.62	2.82	1.01	-1.13	-1.00	1.18	-1.33
1417455_at	Tgfb3	-2.96	-2.51	-3.97	1.04	-1.17	-1.46	1.10	1.26
1458512_at	Tle3	-2.14	-3.18	-2.67	-1.23	-1.26	-1.60	-1.38	-2.31
1454741_s_at	Tmem164	-2.71	-3.97	-4.75	-2.93	-2.58	-1.86	-1.59	-1.15
1428758_at	Tmem86a	-3.11	-2.03	-2.10	-1.32	-1.53	-1.48	1.17	-3.10
1433699_at	Tnfaip3	3.11	3.26	3.24	2.65	2.21	1.94	1.04	1.73
1450829_at	Tnfaip3	3.01	3.84	2.15	2.04	1.82	1.78	-1.30	1.69
1421398_at	Trim7	14.90	8.02	6.20	2.93	1.12	3.06	1.42	2.16
1448472_at	Vars2	2.54	2.21	2.36	1.61	1.50	1.56	-1.35	-2.35
1420909_at	Vegfa	-3.97	-2.17	-4.76	-2.36	-2.08	-1.79	-1.36	-9.19
1439060_s_at	Wipi1	2.28	2.48	2.05	1.20	1.35	1.42	1.49	-1.02

*Fold change from experiments using the Affymetrix Mouse Genome 430, v2.0 GeneChip® arrays

Supplementary Table 4. Subset of genes from Supplementary Tables 1-3 that are also significantly regulated in primary pre-B cells in response to Rag DSBs

Relative fold change* for each Artemis-/-:IgHtg sample/average of the RAG1-/-:IgHtg samples					
Affymetrix ID	Sequence Name	Artemis-/-:IgHtg #1	Artemis-/-:IgHtg #2	average of fold change in #1 and #2	
1433936_at	0610010E21Rik	1.58	1.55	1.6	
1455219_at	1110030E23Rik	-2.90	-1.71	-2.3	
1452418_at	1200016E24Rik	1.42	1.71	1.6	
1455869_at	1300007C21Rik	2.16	1.74	1.9	
1441971_at	1441971_at	2.40	4.10	3.3	
1442074_at	1442074_at	5.15	6.72	5.9	
1443051_at	1443051_at	1.53	1.41	1.5	
1444937_at	1444937_at	-2.26	-2.22	-2.2	
1445263_at	1445263_at	1.72	1.21	1.5	
1445641_at	1445641_at	2.08	1.63	1.9	
1458599_at	1458599_at	2.95	10.58	6.8	
1440640_at	2010111I01Rik	-2.41	-1.05	-1.7	
1436679_at	2210010N04Rik	-2.69	-1.46	-2.1	
1452799_at	2310009E04Rik	1.84	2.36	2.1	
1431141_at	2610507I01Rik	-4.04	1.07	-1.5	
1454158_at	2810038M04Rik	-2.21	-2.33	-2.3	
1429503_at	2900024C23Rik	1.93	1.95	1.9	
1431478_at	3110035G12Rik	-1.23	-1.70	-1.5	
1428004_at	3300001G02Rik	2.22	2.17	2.2	
1419730_at	4631427C17Rik	2.02	2.21	2.1	
1459927_at	4833445I07Rik	1.73	1.57	1.7	
1433202_at	6030400A10Rik	-2.52	-2.14	-2.3	
1421840_at	Abca1	-1.54	-1.76	-1.6	
1427546_at	Abca8b	-1.90	-1.02	-1.5	
1424176_a_at	Anxa4	2.04	2.28	2.2	
1421466_at	Asb10	-1.81	-3.40	-2.6	
1436074_at	AY078069	2.11	1.89	2.0	

1416824_at	B230118H07Rik	2.25	2.14	2.2
1442019_at	B230343A10Rik	4.73	1.17	2.9
1440171_x_at	BB026409	-1.96	-1.17	-1.6
1419406_a_at	Bcl11a	2.32	2.59	2.5
1456632_at	Bcl11a	1.75	2.47	2.1
1457072_at	Bcl11a	1.69	2.15	1.9
1418133_at	Bcl3	4.11	3.65	3.9
1429048_at	Bloc1s2	1.79	1.83	1.8
1451417_at	Brca1	-1.51	-1.50	-1.5
1445510_at	C79601	1.60	1.48	1.5
1457769_at	C920009B18Rik	1.18	1.74	1.5
1424633_at	Camk1g	-1.31	-1.60	-1.5
1441974_at	Camk4	1.02	1.89	1.5
1417420_at	Ccnd1	3.14	5.98	4.6
1424727_at	Ccr5	2.70	2.55	2.6
1426120_a_at	Cd244	5.25	2.98	4.1
1449991_at	Cd244	2.22	2.00	2.1
1439221_s_at	Cd40	9.52	6.08	7.8
1460218_at	Cd52	1.70	1.78	1.7
1428735_at	Cd69	1.96	1.29	1.6
1444416_at	Cenpa	-1.46	-1.93	-1.7
1419693_at	Colec12	1.43	2.17	1.8
1459632_at	Crim1	1.64	1.65	1.6
1454268_a_at	Cyba	1.75	2.10	1.9
1422978_at	Cybb	5.39	5.27	5.3
1436778_at	Cybb	3.37	4.21	3.8
1436779_at	Cybb	2.65	3.20	2.9
1442656_at	D3Ert343e	3.82	1.62	2.7
1456111_at	D930028F11Rik	1.35	2.50	1.9
1425315_at	Dock7	2.02	2.03	2.0
1417235_at	Ehd3	1.54	2.69	2.1
1418773_at	Fads3	3.79	6.36	5.1
1443621_at	Fbxo39	7.71	1.05	4.4
1460434_at	Fundc2	-3.61	-3.18	-3.4
1426704_at	Gak	3.06	1.88	2.5

1455599_at	Gfod1	-1.92	-1.36	-1.6
1415698_at	Golm1	1.65	1.39	1.5
1423689_a_at	Gpsm1	-1.74	-1.28	-1.5
1451593_at	H2-D1	-2.27	-1.15	-1.7
1450582_at	H2-Q5	-2.43	-1.76	-2.1
1440145_at	H60	-1.69	-1.23	-1.5
1434572_at	Hdac9	-2.46	-2.59	-2.5
1417613_at	Ier5	7.93	9.22	8.6
1417612_at	Ier5	2.89	2.49	2.7
1460009_at	Ier5	2.40	2.74	2.6
1452843_at	Il6st	2.42	2.65	2.5
1426214_at	Imp4	-2.01	-1.07	-1.5
1430597_at	Jakmip1	-1.12	-1.83	-1.5
1433815_at	Jakmip1	-1.82	-1.98	-1.9
1441071_at	Kcnq5	-1.77	-3.87	-2.8
1438666_at	Ldlrad3	1.46	1.52	1.5
1439651_at	Lmo4	-1.81	-2.18	-2.0
1441150_x_at	LOC100039236	1.69	2.16	1.9
1451962_at	LOC213481	-1.62	-1.45	-1.5
1431213_a_at	LOC67527	2.53	1.82	2.2
1419135_at	Ltb	2.60	2.58	2.6
1418936_at	Maff	1.03	3.74	2.4
1419208_at	Map3k8	3.49	3.74	3.6
1451799_at	MGC38132	3.13	1.39	2.3
1425902_a_at	Nfkb2	3.85	2.38	3.1
1458299_s_at	Nfkbie	3.21	2.63	2.9
1431843_a_at	Nfkbie	3.30	2.31	2.8
1418634_at	Notch1	1.74	2.11	1.9
1458318_at	Oxr1	-9.80	-2.45	-6.1
1416712_at	Pepd	1.68	2.02	1.9
1438435_at	Phca	1.91	1.99	2.0
1435567_at	Phka1	-1.52	-1.41	-1.5
1422743_at	Phka1	-1.50	-1.66	-1.6
1433462_a_at	Pi4k2a	-1.86	-1.53	-1.7
1417216_at	Pim2	2.74	2.23	2.5

1458764_at	Pla2g1b	-1.81	-1.39	-1.6
1436194_at	Prelid2	2.00	1.28	1.6
1422045_a_at	Ptpn12	-2.56	-2.09	-2.3
1416527_at	Rab32	1.96	1.65	1.8
1417856_at	Relb	1.63	1.88	1.8
1423515_at	Scn8a	-1.35	-1.64	-1.5
1423986_a_at	Scotin	2.34	2.13	2.2
1437503_a_at	Scotin	1.61	1.83	1.7
1419481_at	Sell	2.41	2.37	2.4
1419480_at	Sell	1.88	2.50	2.2
1419668_at	Sgcb	1.70	2.20	1.9
1419667_at	Sgcb	1.32	2.54	1.9
1417584_at	Slc11a2	-1.92	-1.13	-1.5
1452078_a_at	Slc11a2	-2.39	-1.63	-2.0
1439494_at	Slc5a9	1.40	2.22	1.8
1426634_at	Slc5a9	1.55	2.03	1.8
1435603_at	Sned1	1.50	4.55	3.0
1438543_at	Spata13	-2.94	-1.00	-2.0
1417645_at	Sspn	-1.49	-2.12	-1.8
1423543_at	Swap70	2.10	1.72	1.9
1434225_at	Swap70	1.80	1.43	1.6
1458512_at	Tle3	1.16	1.78	1.5
1454741_s_at	Tmem164	-2.21	-1.83	-2.0
1450829_at	Tnfaip3	3.49	2.31	2.9
1433699_at	Tnfaip3	2.55	2.49	2.5
1439352_at	Trim7	5.15	3.19	4.2
1421398_at	Trim7	1.78	2.28	2.0
1446905_at	Waspip	-1.25	-2.22	-1.7
1440400_at	X83325	1.80	1.55	1.7
1431747_at	Zw10	-2.00	-2.42	-2.2

*Fold change from experiments using the Affymetrix Mouse Genome 430, v2.0 GeneChip® arrays