

Figure S1. 77 common dysregulated genes in LV-HuR vs. LV-NC and sh-HuR vs. sh-NC groups. HuR, Human antigen R; ROS, reactive oxygen species; sh, short hairpin; NC, negative control; LV, lentiviral.

No.	Gene Name	Gene ID	LV-HuR VS LV-NC			sh-HuR VS sh-NC		
			Fold change	P-Value	Regulation	Fold change	P-Value	Regulation
1	CALB2	ENSG00000172137.18_3	10.40	3.82E-64	Upregulation	1.54	4.84E-03	Upregulation
2	INHBA	ENSG00000122641.10_3	5.51	4.60E-45	Upregulation	1.63	5.71E-08	Upregulation
3	ACSS2	ENSG00000131069.19_4	4.50	0	Upregulation	2.75	0	Upregulation
4	HMGCS1	ENSG00000112972.14_3	4.34	0	Upregulation	2.19	9.93E-67	Upregulation
5	SOLE	ENSG00000104549.11_2	3.62	0	Upregulation	2.14	1.03E-98	Upregulation
6	PPFIA4	ENSG00000143847.15_3	3.51	1.41E-09	Upregulation	1.93	2.74E-07	Upregulation
7	LOXL2	ENSG00000134013.15_3	3.35	0	Upregulation	1.67	1.47E-58	Upregulation
8	CAS9	ENSG00000107159.12_2	3.29	4.64E-18	Upregulation	1.54	4.70E-03	Upregulation
9	MVD	ENSG00000167508.11_3	3.27	0	Upregulation	2.09	2.13E-72	Upregulation
10	MSMO1	ENSG00000052802.12_3	3.12	0	Upregulation	2.10	9.56E-90	Upregulation
11	SAMD4	ENSG00000020577.13_3	3.12	6.82E-26	Upregulation	1.63	7.79E-06	Upregulation
12	F3	ENSG00000117525.13_2	3.05	0	Upregulation	1.50	3.52E-44	Upregulation
13	LY6K	ENSG00000160886.13_3	2.83	4.70E-19	Upregulation	1.68	5.20E-03	Upregulation
14	LPIN1	ENSG00000134324.11_4	2.76	3.47E-86	Upregulation	2.34	5.51E-65	Upregulation
15	FDP5	ENSG00000160752.14_2	2.76	7.99E-82	Upregulation	1.72	4.55E-25	Upregulation
16	NTSE	ENSG00000135318.11_3	2.74	8.82E-17	Upregulation	1.50	1.65E-03	Upregulation
17	ACAT2	ENSG00000120437.8_2	2.73	1.17E-24	Upregulation	1.85	9.11E-16	Upregulation
18	RTNAR	ENSG00000040608.12_4	2.69	1.38E-17	Upregulation	1.74	1.00E-05	Upregulation
19	CYP51A1	ENSG00000016301.16_5	2.61	5.33E-08	Upregulation	1.82	2.08E-02	Upregulation
20	ACLY	ENSG00000131473.16_3	2.48	0	Upregulation	1.92	0	Upregulation
21	INSIG1	ENSG00000186480.12_3	2.43	0	Upregulation	2.07	0	Upregulation
22	DHCR7	ENSG00000172893.15_3	2.41	0.00E+00	Upregulation	1.88	8.36E-88	Upregulation
23	RUSC1AS1	ENSG00000022585.6_4	2.39	5.89E-14	Upregulation	1.93	5.03E-06	Upregulation
24	ENC2	ENSG00000111674.8_3	2.36	2.24E-10	Upregulation	1.66	2.55E-06	Upregulation
25	FASN	ENSG00000169970.8_3	2.35	0	Upregulation	1.99	0	Upregulation
26	PCYT2	ENSG00000185813.10_4	2.31	7.73E-59	Upregulation	1.53	1.93E-14	Upregulation
27	PPKFB4	ENSG00000114268.11_3	2.30	9.51E-18	Upregulation	1.50	1.87E-04	Upregulation
28	ALDOC	ENSG00000109107.13_3	2.28	4.21E-84	Upregulation	2.09	5.24E-69	Upregulation
29	EBP	ENSG00000147155.10_4	2.23	1.69E-55	Upregulation	1.74	1.41E-28	Upregulation
30	LSS	ENSG00000160285.14_2	2.19	2.99E-63	Upregulation	1.99	2.41E-42	Upregulation
31	LIPG	ENSG00000101670.11_3	2.12	1.95E-24	Upregulation	1.76	3.87E-28	Upregulation
32	FDFT1	ENSG00000079459.12_3	2.08	0	Upregulation	1.91	0	Upregulation
33	ID1	ENSG00000067064.11_4	2.03	2.46E-48	Upregulation	1.81	2.58E-35	Upregulation
34	SEMA5B	ENSG00000082684.15_5	1.99	7.40E-04	Upregulation	1.87	3.51E-03	Upregulation
35	AC112777.1	ENSG00000025663.1_5	1.99	1.17E-07	Upregulation	0.42	1.38E-13	Downregulation
36	MVK	ENSG00000110921.13_5	1.95	3.12E-41	Upregulation	1.58	3.60E-19	Upregulation
37	HMGCR	ENSG00000113161.15_3	1.88	2.08E-36	Upregulation	1.59	5.91E-28	Upregulation
38	COL4A1	ENSG00000187498.15_4	1.86	9.00E-17	Upregulation	1.53	5.72E-03	Upregulation
39	PCSK9	ENSG00000169174.10_2	1.85	3.22E-72	Upregulation	2.04	5.59E-95	Upregulation

No.	Gene Name	Gene ID	LV-HuR VS LV-NC			sh-HuR VS sh-NC		
			Fold change	P-Value	Regulation	Fold change	P-Value	Regulation
40	HSD17B7	ENSG00000132196.14_3	1.82	3.19E-09	Upregulation	1.63	2.08E-06	Upregulation
41	LTBP2	ENSG00000119681.11_3	1.79	1.24E-15	Upregulation	1.52	3.94E-07	Upregulation
42	SNAI3-AS1	ENSG000000260630.6_5	1.79	5.57E-05	Upregulation	1.94	4.82E-06	Upregulation
43	PNPLA3	ENSG00000100344.10_3	1.79	6.23E-06	Upregulation	2.38	1.65E-10	Upregulation
44	LDLR	ENSG00000130164.15_5	1.73	6.59E-78	Upregulation	1.69	7.81E-78	Upregulation
45	ITGA7	ENSG00000135424.16_4	1.73	6.24E-04	Upregulation	1.53	4.03E-02	Upregulation
46	TMBIM1	ENSG00000135926.14_5	1.72	4.15E-93	Upregulation	1.61	4.02E-77	Upregulation
47	PORCN	ENSG00000102312.21_4	1.71	1.15E-13	Upregulation	1.66	8.18E-13	Upregulation
48	LINC00887	ENSG00000214145.6_4	1.67	3.92E-03	Upregulation	1.62	1.47E-02	Upregulation
49	SLC2A6	ENSG00000160326.13_3	1.66	6.78E-05	Upregulation	1.70	2.40E-04	Upregulation
50	PRSS23	ENSG00000155687.11_3	1.65	8.62E-09	Upregulation	1.52	6.80E-06	Upregulation
51	CLCN6	ENSG00000110212.22_4	1.59	6.20E-07	Upregulation	1.70	2.72E-08	Upregulation
52	SERPINB7	ENSG00000166396.12_3	1.58	2.25E-12	Upregulation	1.51	1.01E-09	Upregulation
53	OLF4	ENSG00000102837.6_2	0.88	1.50E-73	Downregulation	0.53	2.76E-05	Downregulation
54	TMPPRS11E	ENSG000000087128.9_2	0.14	7.12E-77	Downregulation	0.46	6.85E-09	Downregulation
55	KRT1	ENSG00000167768.4_2	0.21	2.61E-22	Downregulation	0.30	7.88E-07	Downregulation
56	CLDN8	ENSG00000156284.5_2	0.23	1.92E-06	Downregulation	0.24	1.59E-04	Downregulation
57	CYP4B1	ENSG00000142973.13_2	0.24	1.20E-49	Downregulation	0.52	2.99E-06	Downregulation
58	DSG4	ENSG00000175065.11_3	0.25	2.78E-20	Downregulation	0.49	9.16E-04	Downregulation
59	AGR2	ENSG00000106541.11_2	0.30	1.74E-29	Downregulation	0.53	5.94E-04	Downregulation
60	LDLRAD1	ENSG000000203985.10_2	0.31	2.46E-20	Downregulation	0.56	3.00E-04	Downregulation
61	CD74	ENSG00000195882.14_4	0.37	2.24E-20	Downregulation	0.51	2.28E-06	Downregulation
62	C10orf59	ENSG00000188373.4_2	0.37	1.50E-31	Downregulation	0.52	5.47E-10	Downregulation
63	CASP1	ENSG00000137752.23_4	0.40	2.94E-26	Downregulation	0.65	4.37E-04	Downregulation
64	FGD3	ENSG00000127084.18_3	0.41	9.44E-61	Downregulation	1.57	3.30E-16	Upregulation
65	MUC20	ENSG00000176945.16_6	0.42	2.92E-06	Downregulation	0.52	3.92E-02	Downregulation
66	ALDH3A1	ENSG00000108602.17_3	0.47	0.00E+00	Downregulation	0.50	8.37E-75	Downregulation
67	PTPRZ1	ENSG00000106278.11_2	0.49	2.78E-10	Downregulation	0.57	4.07E-06	Downregulation
68	DAPL1	ENSG00000163331.11_4	0.52	3.43E-03	Downregulation	0.49	6.46E-03	Downregulation
69	FOSB	ENSG00000125740.13_3	0.53	0.00E+00	Downregulation	0.59	1.40E-56	Downregulation
70	TNFRSF14	ENSG00000157873.17_4	0.53	7.09E-07	Downregulation	0.65	3.50E-02	Downregulation
71	AKR1B10	ENSG00000198074.9_2	0.54	1.43E-08	Downregulation	0.56	1.25E-05	Downregulation
72	GAS2L2	ENSG00000270765.5_2	0.56	6.14E-10	Downregulation	0.62	1.18E-05	Downregulation
73	HEG1	ENSG00000173706.13_4	0.56	1.57E-09	Downregulation	1.58	2.44E-02	Upregulation
74	RBBP8NL	ENSG00000130701.3_2	0.59	9.34E-05	Downregulation	0.59	3.02E-03	Downregulation
75	SAMHD1	ENSG00000101347.9_4	0.60	2.07E-11	Downregulation	0.65	2.46E-06	Downregulation
76	DUSP1	ENSG00000120129.5_2	0.61	1.70E-15	Downregulation	0.64	1.22E-15	Downregulation
77	BCH2	ENSG00000164039.14_3	0.65	7.97E-04	Downregulation	0.63	1.97E-02	Downregulation

Figure S2. KEGG pathway enrichment analysis of mRNA sequencing profiles. (A) KEGG pathway distribution diagram of upregulated and downregulated mRNA in LV-HuR vs. LV-NC and sh-HuR vs. sh-NC groups. (B) KEGG pathway enrichment of the dysregulated mRNAs from sh-HuR vs. sh-NC group. (C) KEGG pathway enrichment of the dysregulated mRNAs from LV-HuR vs. LV-NC group. KEGG, Kyoto Encyclopedia of Genes and Genomes; HuR, Human antigen R; ROS, reactive oxygen species; sh, short hairpin; NC, negative control; LV, lentiviral.

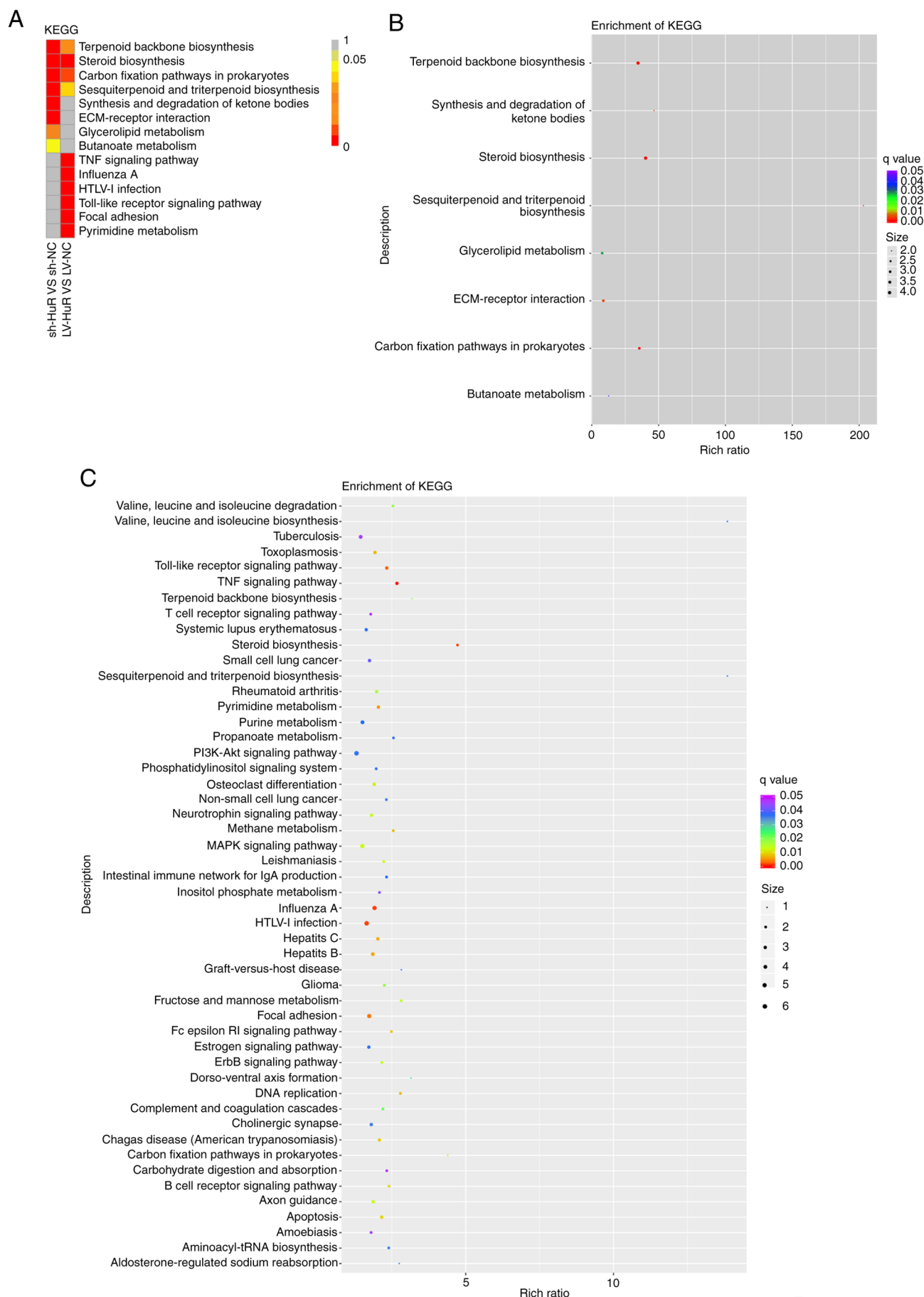


Figure S3. The list of upregulated genes of HuR RIP and corresponding mRNA after 5 Gy X-ray irradiation. HuR, Human antigen R; RIP, RNA immunoprecipitation.

No.	Gene	Gene ID	HuR binding		Binding region	Expression	
			Fold-change	P-Value		Fold-change	P-Value
1	PID1	NM_001100818	11.00	5.32E-06	exon	2.19	2.73E-02
2	CLCA2	NM_008536	3.75	8.29E-05	exon	2.70	5.00E-05
3	SIK1	NM_173354	4.24	8.70E-05	exon	2.29	4.25E-02
4	SERPINE1	NM_000602	4.55	0	exon	2.36	5.00E-05
5	SLC7A5	NM_003486	4.78	0	exon	2.28	5.00E-05
6	PAPPA	NM_002581	5.04	2.31E-11	exon	2.20	5.00E-05
7	BMPER	NM_133468	7.67	4.69E-08	exon	2.46	6.60E-03
8	NLRP10	NM_176821	7.77	1.62E-05	exon	2.61	2.63E-02
9	ADAM23	NM_003812	7.77	1.62E-05	exon	2.72	1.27E-02
10	IL33	NM_001314045	9.04	7.13E-10	exon	3.25	1.96E-02
11	ENDOCAN	NM_007036	10.10	0	exon	3.20	5.00E-05
12	NTN1	NM_004822	11.00	3.39E-08	exon	3.90	3.00E-03
13	SHROOM2	NM_001320663	12.90	4.10E-07	exon	2.54	1.20E-03
14	DRAXIN	NM_198545	161.00	2.48E-06	exon	4.03	5.00E-05