

Figure S1. *Sirt1* knockdown and overexpression efficiencies were confirmed by Western blotting

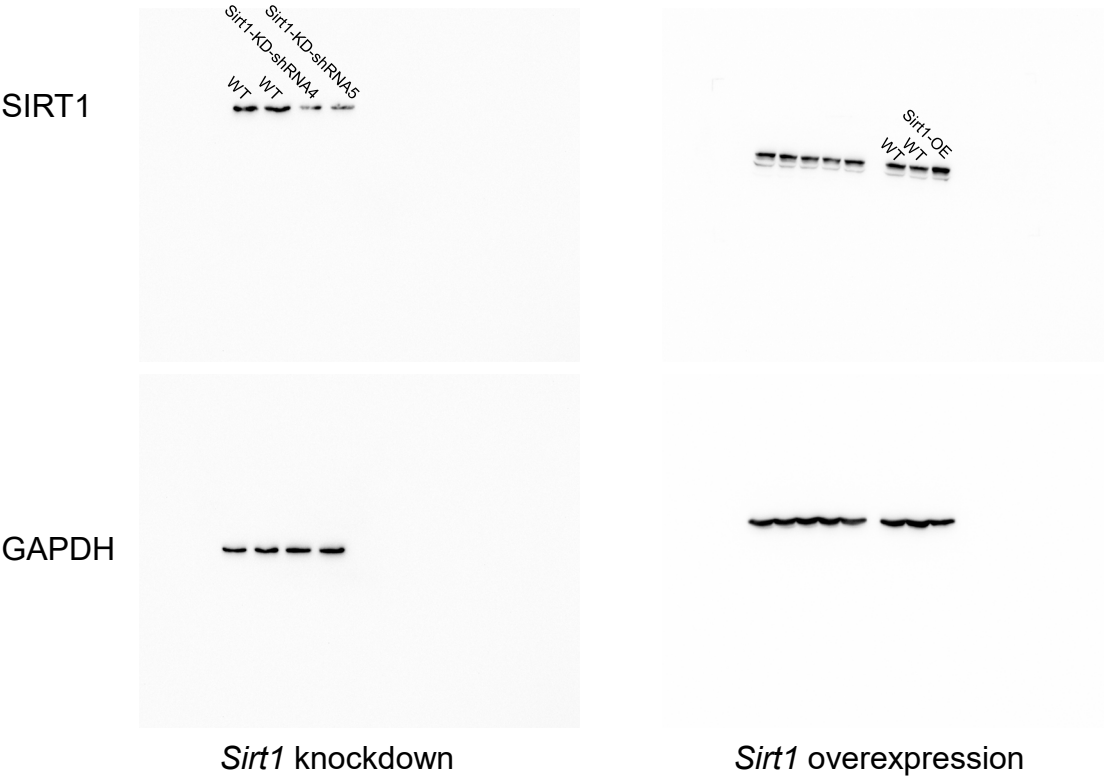
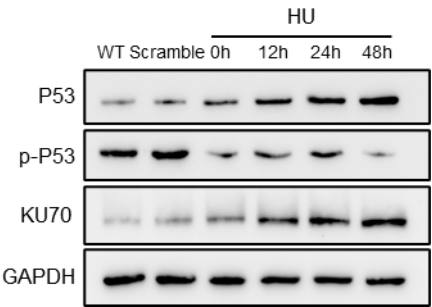


Figure S2. Raw data of p53, p-p53, and KU70 expression in *Sirt1*-knockdown



Western blot analysis of p53, p-p53, and KU70 expression in *Sirt1*-knockdown



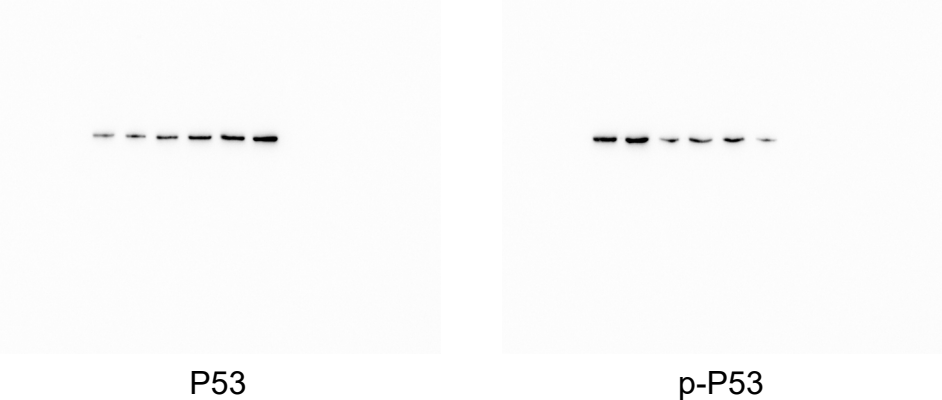
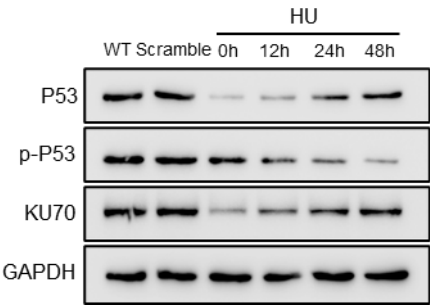


Figure S3. Raw data of p53, p-p53, and KU70 expression in Sirt1-overexpression



Western blot analysis of p53, p-p53, and KU70 expression in Sirt1-overexpression

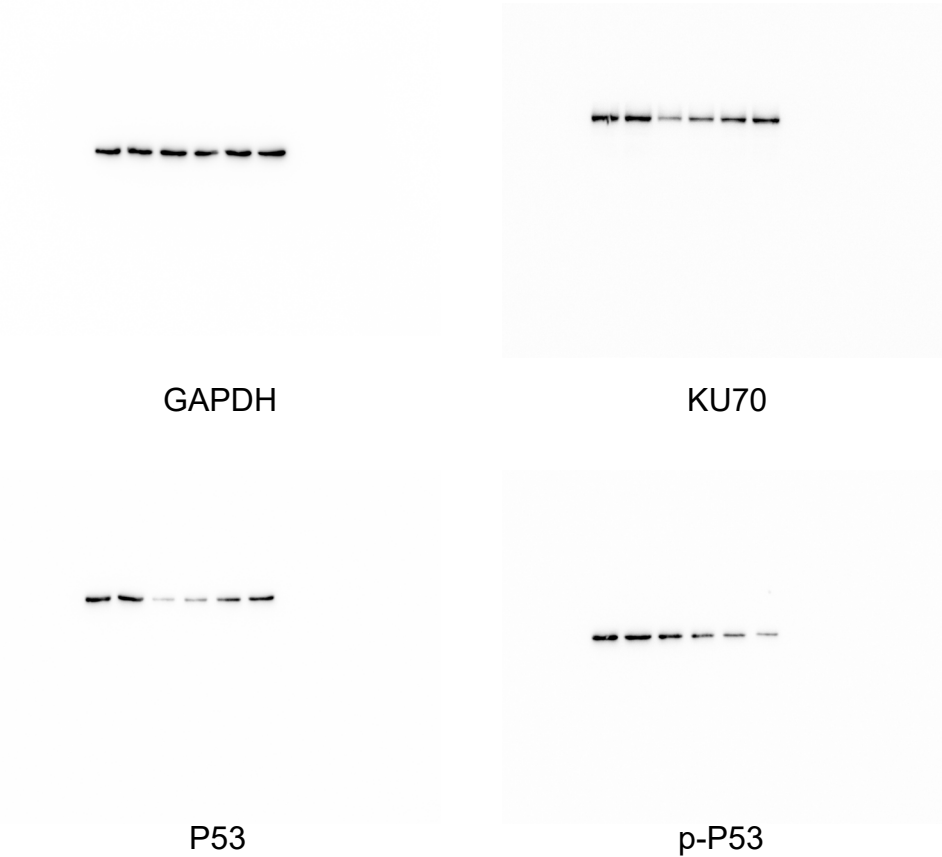


Figure S4. Raw data of Co-immunoprecipitation

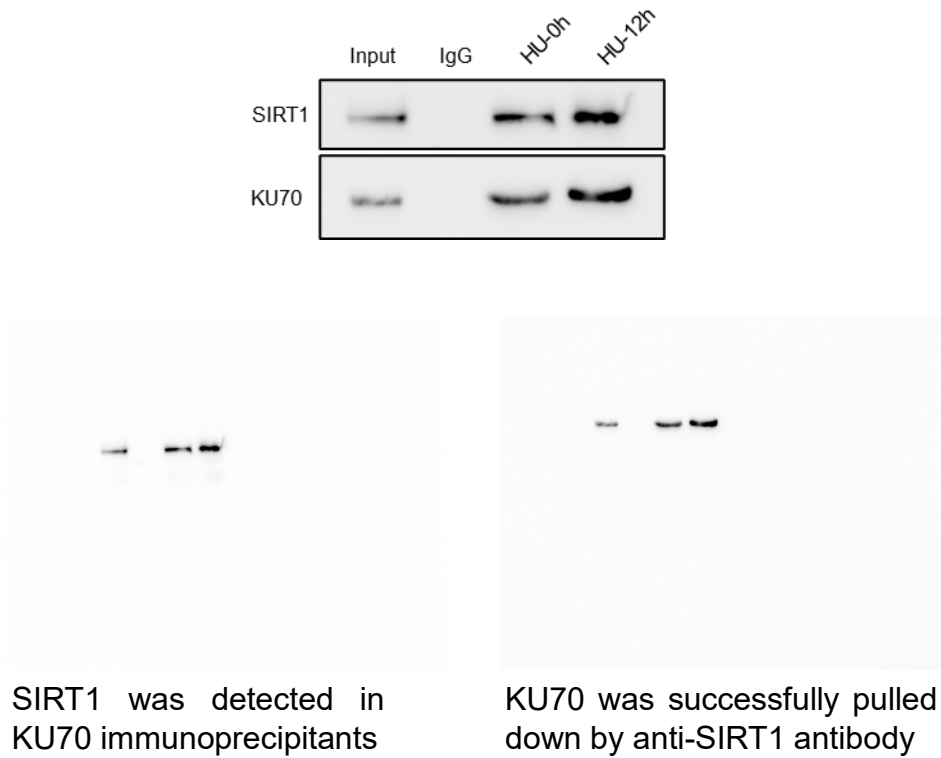


Figure S4. Raw data of KU70 acetylation at lysine 331 in SSCs with or without Sirt1 overexpression

Note: The full-length, uncropped original Western blot images corresponding to this figure will be uploaded in the final version of the Supplementary Information.

Original data of cell curve

TIME	GROUP				average	stdev
0	WT	49.837	49.278	48.665	49.260	0.586
	Lip2000	48.855	49.976	48.453	49.095	0.789
	Scramble	48.419	48.248	49.780	48.816	0.840
	Sirt1-KD shRNA4	49.732	49.027	48.901	49.220	0.448
	Sirt1-KD shRNA5	49.913	48.146	48.108	48.722	1.031
	Sirt1-OE	48.069	49.737	48.119	48.642	0.949
12	WT	46.803	47.104	46.863	46.923	0.159
	Lip2000	46.144	47.243	47.834	47.074	0.858
	Scramble	46.410	47.317	46.820	46.849	0.454
	Sirt1-KD shRNA4	46.333	47.370	47.269	46.991	0.572
	Sirt1-KD shRNA5	46.985	46.073	47.691	46.916	0.811
	Sirt1-OE	47.382	47.462	46.245	47.030	0.681
24	WT	44.364	45.731	44.117	44.737	0.869
	Lip2000	43.951	43.485	43.969	43.802	0.274
	Scramble	43.290	44.056	43.511	43.619	0.394
	Sirt1-KD shRNA4	39.068	40.402	40.100	39.857	0.699
	Sirt1-KD shRNA5	40.279	41.920	41.119	41.106	0.821
	Sirt1-OE	45.390	45.870	45.273	45.511	0.316
48	WT	25.271	24.496	23.044	24.270	1.131
	Lip2000	23.355	23.539	22.486	23.127	0.562
	Scramble	23.585	22.858	22.689	23.044	0.476
	Sirt1-KD shRNA4	15.051	15.497	15.356	15.301	0.228
	Sirt1-KD shRNA5	18.554	19.460	19.956	19.323	0.711
	Sirt1-OE	28.983	27.116	28.439	28.179	0.960

+HU

TIME	GROUP				average	stdev
Control	WT	49.331	50.221	50.224	49.925	0.515
	Lip2000	51.926	49.587	49.157	50.223	1.490
	Scramble	50.798	50.448	50.320	50.522	0.247
	Sirt1-KD shRNA4	51.421	51.370	50.622	51.138	0.447
	Sirt1-KD shRNA5	49.414	49.013	51.079	49.835	1.096
	Sirt1-OE	50.611	50.056	51.273	50.647	0.609
12h	WT	57.642	59.405	56.232	57.760	1.590
	Lip2000	54.497	57.309	57.739	56.515	1.761
	Scramble	53.782	54.570	56.002	54.785	1.125
	Sirt1-KD shRNA4	52.840	55.431	53.401	53.891	1.363
	Sirt1-KD shRNA5	56.007	54.223	55.279	55.170	0.897
	Sirt1-OE	57.352	58.230	59.198	58.260	0.923
24h	WT	73.896	69.992	71.950	71.946	1.952
	Lip2000	71.300	68.016	69.347	69.554	1.652
	Scramble	70.149	71.504	69.256	70.303	1.132
	Sirt1-KD shRNA4	65.111	67.562	66.453	66.375	1.227
	Sirt1-KD shRNA5	69.266	68.108	67.466	68.280	0.912
	Sirt1-OE	73.210	74.161	72.696	73.356	0.743
48h	WT	102.397	104.943	99.573	102.304	2.686
	Lip2000	97.556	101.418	99.931	99.635	1.948
	Scramble	98.921	97.643	99.592	98.719	0.990
	Sirt1-KD shRNA4	78.895	80.037	81.773	80.235	1.449
	Sirt1-KD shRNA5	87.773	85.725	90.986	88.161	2.652
	Sirt1-OE	110.478	111.040	114.247	111.922	2.033

No HU