



Figure S1.

**Cyto**

**Nucleus**

Mock

HSV

Mock

HSV

Lamin B

NOS1

WT/mock	Mut-1/mock	Mut-2/mock	
<b>0.771</b>	0.921	0.898	<b>GTF3C2</b>
<b>0.824</b>	0.944	0.983	<b>MED8</b>
<b>0.834</b>	0.907	1.067	<b>SMARCA1</b>
<b>0.837</b>	0.984	1.028	<b>CARF</b>
0.850	1.048	0.963	NFYC
0.858	0.931	1.005	TRRAP
0.906	0.976	0.944	SUPT5H
0.908	0.910	0.938	GTF2I
0.930	0.907	0.878	TRIM28
0.946	<b>1.153</b>	<b>1.379</b>	<b>GTF3C4</b>
0.961	0.997	1.019	SMARCA2
0.967	0.965	0.903	GTF2H4
0.987	0.928	0.898	YY1
0.996	0.930	0.952	SLTM
0.998	0.948	0.943	TCERG1
1.007	0.946	0.929	BTF3
1.019	0.875	0.904	UBTF
1.026	1.013	0.929	GTF3C1
1.029	0.992	0.980	GTF3C3
1.031	1.012	1.036	MED11
1.040	<b>1.192</b>	<b>1.205</b>	<b>STAT1</b>
1.111	1.100	0.939	CTCF
1.124	0.874	<b>1.181</b>	<b>BCLAF1</b>
1.129	1.058	0.952	TAF8
<b>1.424</b>	0.925	<b>0.613</b>	<b>NFYB</b>

**Set 1**

P16403	Histone H1.2 HIST1H1C
P16402	Histone H1.3 HIST1H1D
P10412	Histone H1.4 HIST1H1E
Q92522	Histone H1x H1FX

Q71UI9	Histone H2A.V H2AFV
Q8IUE6	Histone H2A type 2-B HIST2H2AB
U3KQK0	Histone H2B HIST1H2BN
P33778	Histone H2B type 1-B HIST1H2BB

P68431	Histone H3.1 HIST1H3A
Q16695	Histone H3.1t HIST3H3
Q71DI3	Histone H3.2 HIST2H3A
P84243	Histone H3.3 H3F3A

P62805	Histone H4 HIST1H4A
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**Set 2**

Score	Coverage	WT	Mut-1	Mut-2
3016.70	100.00	0.865	0.827	0.839
2877.30	92.31	0.943	0.893	0.872
3175.00	100.00	0.909	0.900	0.847
566.19	97.65	0.990	0.990	0.998

301.46	97.66	0.980	1.867	1.407
704.55	93.08	1.298	1.265	1.186
1267.13	87.95	1.174	2.265	1.699
1190.07	100.00	1.184	2.001	1.499

346.26	88.24	0.911	1.517	1.449
325.08	88.24	0.986	1.611	1.222
473.92	88.24	1.136	1.952	1.484
433.65	88.24	1.043	1.738	1.273

737.96	100.00	1.400	2.829	1.901
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Score	Coverage	WT	Mut-1	Mut-2
2431.89	99.06	0.977	0.884	0.865
2287.59	99.10	0.952	0.916	0.943
2588.09	99.09	1.006	0.915	0.834
464.44	100.00	1.010	0.988	1.024

248.72	82.03	1.238	1.870	1.422
326.12	94.62	1.242	1.323	1.243
936.64	87.95	1.224	2.126	1.679
878.92	97.62	1.210	1.840	1.388

250.65	90.44	1.047	1.419	1.282
236.19	90.44	1.084	1.835	1.381
353.05	90.44	1.075	2.042	1.456
332.29	97.06	1.146	1.756	1.340

550.10	95.15	1.478	2.774	1.985
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Biological Function	Analysis Name	p-value	Molecules	# of proteins
Cellular Assembly and Organization	Mu1 vs. Mock1 & Mu1 vs. Mock2	4.15E-13-4.33E-02	CCT2,CCT3,CCT4,CCT5,CCT6A,CCT7,CCT8,GAPDH,GNBL1,HST3H3,MYOF,NUP155,SUPT16H,TCPI,SET,BASP1,FAM109B,HMGON1,HMG81	20
	Mu2 vs. Mock1 & Mu2 vs. Mock2	5.13E-06-8.85E-02	ANKA1,CCT3,CCT5,CCT6A,CCT7,CCT8,EEF1A1,GAPDH,HST3H3,KRT3,MYOF,PLXNB1,SLC25A5,SRP1,SUPT16H,HST1H1C,NPM1	17
Cell-To-Cell Signaling and Interaction	Mu1 vs. Mock1 & Mu1 vs. Mock2	1.87E-12-4.65E-02	CCT2,CCT3,CCT4,CCT5,CCT6A,CCT7,CCT8,CNN2,GNB1,MYOF,PLXNB1,HMG81	13
	Mu2 vs. Mock1 & Mu2 vs. Mock2	1.04E-05-4.51E-02	ANKA1,CCT3,CCT5,CCT6A,CCT7,GAPDH,KRT3,MYOF,OASL,PLXNB1,NPM1,PAWR	12
Cell Death and Survival	Mu1 vs. Mock1 & Mu1 vs. Mock2	1.78E-09-4.65E-02	ATPSA1,CCT2,CCT3,CCT4,CCT5,CCT6A,CCT7,CCT8,CNN2,EIF6,GAPDH,GNBL1,MYOF,ORC2,SET,SNR1,TCPI,USP10,BASP1,CHTOP,HDOF,HMG81,PGBP1,PRDX1	24
	Mu2 vs. Mock1 & Mu2 vs. Mock2	7.41E-05-4.74E-02	ANKA1,BCLAF1,CCT3,CCT5,CCT6A,CCT7,EEF1A1,GAPDH,GAPD,KRT10,MYOF,PLXNB1,PRDX1,SET,SLC25A5,SRP1,TPT1,HDOF,NPM1,PAWR	20
Cellular Movement	Mu1 vs. Mock1 & Mu1 vs. Mock2	7.21E-05-4.65E-02	CNN2,GNBL1,HDOF,HMG81,HMG83	5
	Mu2 vs. Mock1 & Mu2 vs. Mock2	4.45E-04-4.55E-02	ANKA1,PLXNB1,PRDX1,SRP1,HDOF,NPM1	6
Cell Morphology	Mu1 vs. Mock1 & Mu1 vs. Mock2	2.36E-04-4.65E-02	CNN2,GNBL1,SET,BASP1,CHTOP,DPY30,ERH,HMG81,PRDX1	9
	Mu2 vs. Mock1 & Mu2 vs. Mock2	3.1E-03-3.36E-02	ANKA1,KRT2,PLXNB1,PRDX1,DPY30,NCOR1,NPM1	7
Cellular Growth and Proliferation	Mu1 vs. Mock1 & Mu1 vs. Mock2	6.16E-04-4.65E-02	ATPSA1,ATPSB,ATPSG1,CCT2,CCT3,CCT5,CCT7,CNN2,EIF6,GAPDH,GNBL1,MYOF,NAP1L1,SET,SNR1,TCPI,USP10,BASP1,DPY30,HDOF,HMG81,HMG83,HMGON1,PRDX1	24
	Mu2 vs. Mock1 & Mu2 vs. Mock2	3.1E-03-4.27E-02	ATPSG1,ANKA1,BCLAF1,CCT3,CCT5,CCT7,EEF1A1,GAPDH,GAPD,KRT3,KRT10,MYOF,NAP1L1,PLXNB1,PRDX1,SET,SLC25A5,TPT1,DPY30,HDOF,NCOR1,NPM1,PAWR	23
Cell Cycle	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.4E-03-4.65E-02	BANF1,CCT4,GNBL1,ORC2,SUPT16H,TCPI,HMG81,HMGON1	8
	Mu2 vs. Mock1 & Mu2 vs. Mock2	4.45E-04-4.85E-02	BANF1,SRP1,SUPT16H,NPM1,PAWR	5
Cellular Function and Maintenance	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.4E-03-4.65E-02	MYOF,NUP155,HMG81,HMGON1,PRDX1	5
	Mu2 vs. Mock1 & Mu2 vs. Mock2	2.93E-03-4.85E-02	ANKA1,GAPDH,KRT3,MYOF,PLXNB1,PRDX1,SRP1,NPM1	8
Molecular Transport	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.4E-03-4.54E-02	ATPSB,ATPSL,GAPDH,GNBL1,NUP155,SET,SLC25A15,CHTOP,HMG81	9
	Mu2 vs. Mock1 & Mu2 vs. Mock2	6.12E-04-4.55E-02	ANKA1,EEF1A1,GAPDH,GAPD,PRDX1,SET,SLC25A5,TPT1,DPY30,PAWR	10
Organ Morphology	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.4E-03-3.31E-02	MYOF,HDOF,HMG81	3
	Mu2 vs. Mock1 & Mu2 vs. Mock2	3.1E-03-4.85E-02	ANKA1,BCLAF1,GAPD,MTFSD2,MYOF,HDOF,NCOR1,NPM1	8
Energy Production	Mu1 vs. Mock1 & Mu1 vs. Mock2	4.34E-08-4.65E-02	ATPSA1,ATPSB,ATPSG1,ATPSG1,ATPSL,CCT4,CCT5,HMG81	6
	Mu2 vs. Mock1 & Mu2 vs. Mock2	3.11E-03-3.64E-03	ATPSG1,ATPSG1,SLC25A5	3
Nucleic Acid Metabolism	Mu1 vs. Mock1 & Mu1 vs. Mock2	4.34E-08-2.68E-02	ATPSA1,ATPSB,ATPSG1,ATPSG1,ATPSL,CCT4,CCT5,GAPDH,SET,ERH,HMG81,HMGON1	12
	Mu2 vs. Mock1 & Mu2 vs. Mock2	6.12E-04-3.36E-02	ATPSG1,ATPSG1,EEF1A1,ERH,GAPDH,GAPD,SET,SLC25A5,TPT1	9
Small Molecule Biochemistry	Mu1 vs. Mock1 & Mu1 vs. Mock2	4.34E-08-4.65E-02	ATPSA1,ATPSB,ATPSG1,ATPSG1,ATPSL,CCT4,CCT5,EIF6,GAPDH,GNBL1,SET,ERH,HMG81,HMGON1,PRDX1	15
	Mu2 vs. Mock1 & Mu2 vs. Mock2	6.12E-04-4.55E-02	ATPSG1,ATPSG1,ANKA1,EEF1A1,ERH,GAPDH,GAPD,MTFSD2,PRDX1,SET,SLC25A5,TPT1,NCOR1,PAWR	14
DNA Replication, Recombination, and Repair	Mu1 vs. Mock1 & Mu1 vs. Mock2	2.12E-05-4E-02	BANF1,CCT4,CCT5,HST3H3,NAP1L1,ORC2,SET,SUPT16H,ERH,HDOF,HMG81,HMGON1	12
	Mu2 vs. Mock1 & Mu2 vs. Mock2	2.11E-03-3.96E-02	BANF1,ERH,GAPD,HST3H3,NAP1L1,PRDX1,SET,SRP1,SUPT16H,HDOF,NPM1,PAWR	12
Carbohydrate Metabolism	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.4E-03-3.24E-02	GAPDH,HMG81	2
	Mu2 vs. Mock1 & Mu2 vs. Mock2	3.1E-03-2.99E-02	EEF1A1,GAPDH,GAPD	3
Lipid Metabolism	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.4E-03-4.65E-02	HMG81	1
	Mu2 vs. Mock1 & Mu2 vs. Mock2	3.1E-03-4.55E-02	ANKA1,EEF1A1	2
Post-Translational Modification	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.4E-03-4.65E-02	CCT4,GNBL1,TCPI,PRDX1	4
	Mu2 vs. Mock1 & Mu2 vs. Mock2	4.26E-02-4.26E-02	ANKA1	1
Protein Folding	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.4E-03-3.91E-02	CCT4,TCPI	2
	Mu2 vs. Mock1 & Mu2 vs. Mock2	6.29E-03-3.02E-02	HMG81	1
Protein Synthesis	Mu1 vs. Mock1 & Mu1 vs. Mock2	6.79E-03-4.85E-02	ANKA1,EEF1A1,GAPDH,GAPD,PRDX1,NPM1	6
	Mu2 vs. Mock1 & Mu2 vs. Mock2	6.78E-03-3.67E-02	SLC25A19	1
Amino Acid Metabolism	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.66E-02-3.66E-02	MTFSD2	1
	Mu2 vs. Mock1 & Mu2 vs. Mock2	8.16E-03-8.16E-03	NUP155,CHTOP	2
RNA Trafficking	Mu1 vs. Mock1 & Mu1 vs. Mock2	8.56E-03-4.65E-02	PGBP1,RBMX,SNRPF	3
	Mu2 vs. Mock1 & Mu2 vs. Mock2	9.27E-03-1.93E-02	NPM1,RP26	2
Cell Signaling	Mu1 vs. Mock1 & Mu1 vs. Mock2	1.89E-02-4.54E-02	GNBL1,SET,HMG81,PRDX1	4
	Mu2 vs. Mock1 & Mu2 vs. Mock2	3.1E-03-3.36E-02	BANF1,EEF1A1,MCU2,OASL,SET	5
Inflammatory Disease	Mu1 vs. Mock1 & Mu1 vs. Mock2	5.61E-03-4.65E-02	GAPDH,SNR1,ERH,HMG81,LDMB,PRDX1	6
	Mu2 vs. Mock1 & Mu2 vs. Mock2	3.8E-04-4.65E-02	ATPSG1,ANKA1,EEF1A1,GAPDH,KRT3,PRDX1	6
Free Radical Scavenging	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.4E-03-3.34E-02	PRDX1	1
	Mu2 vs. Mock1 & Mu2 vs. Mock2	3.1E-03-3.06E-02	GAPD,PRDX1,DPY30	3
Gene Expression	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.4E-03-2.87E-02	CCT2,GAPDH,GNBL1,NAP1L1,SET,SNR1,SUPT16H,HMG81,HMGON1,PRDX1	10
	Mu2 vs. Mock1 & Mu2 vs. Mock2	3.1E-03-4.85E-02	GAPDH,GAPD,PRDX1,SET,SRP1,SUPT16H,NCOR1,NPM1	8
Immune Cell Trafficking	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.4E-03-3.68E-02	CNN2,HMG81	2
	Mu2 vs. Mock1 & Mu2 vs. Mock2	3.1E-03-3.66E-02	ANKA1,PRDX1,NPM1	3
Respiratory Disease	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.4E-03-3.34E-02	DNAH1,GAPDH,SNR1,HMG81,PRDX1	5
	Mu2 vs. Mock1 & Mu2 vs. Mock2	1.22E-04-3.02E-02	ANKA1,DNAH1,EEF1A1,GAPDH,KRT3,KRT10,PLXNB1,PRDX1,TPT1,ANKA2,HST1H1C,RP26	12
Immunological Disease	Mu1 vs. Mock1 & Mu1 vs. Mock2	5.61E-03-3.76E-02	GAPDH,SNR1,ERH,HMG81,LDMB,PRDX1	6
	Mu2 vs. Mock1 & Mu2 vs. Mock2	1.5E-04-2.6E-02	ATPSG1,ANKA1,EEF1A1,GAPDH,KRT3,PRDX1,NPM1	7
Inflammatory Response	Mu1 vs. Mock1 & Mu1 vs. Mock2	2.36E-04-3.91E-02	CNN2,GAPDH,HMG81,PRDX1	4
	Mu2 vs. Mock1 & Mu2 vs. Mock2	3.8E-04-4.58E-02	ANKA1,EEF1A1,GAPDH,KRT3,KRT10,PRDX1,NPM1	7
Respiratory System Development and Function	Mu1 vs. Mock1 & Mu1 vs. Mock2	3.4E-03-4E-02	DPY30,HMG81	2
	Mu2 vs. Mock1 & Mu2 vs. Mock2	1.05E-02-2.68E-02	ATPSB,CCT2,CNN1T31,GAPDH,MYOF,NUP155,SUPT16H,HMG81,PRDX1,SNRPF	10
Infectious Disease	Mu1 vs. Mock1 & Mu1 vs. Mock2	8.25E-05-4.52E-02	ANKA1,BCLAF1,CNN1T31,EEF1A1,GAPDH,MYOF,OASL,SRP1,SUPT16H,TPT1,NPM1,PRDX1,RP26	13
	Mu2 vs. Mock1 & Mu2 vs. Mock2	3.34E-02-3.91E-02	HMG81	1