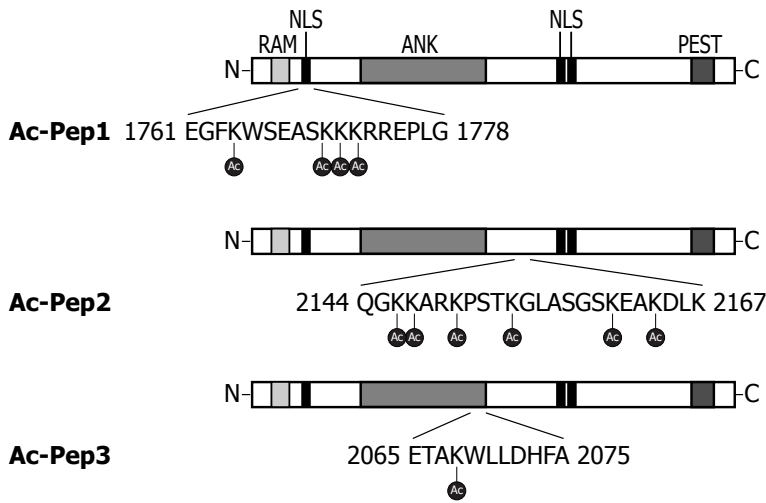
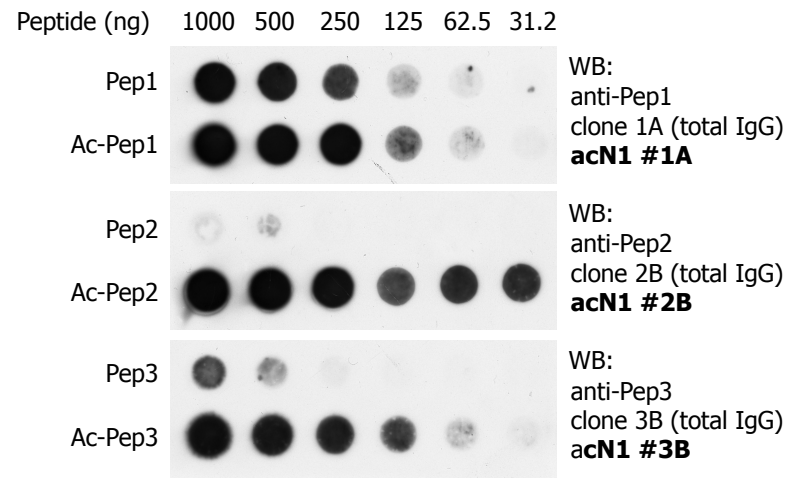


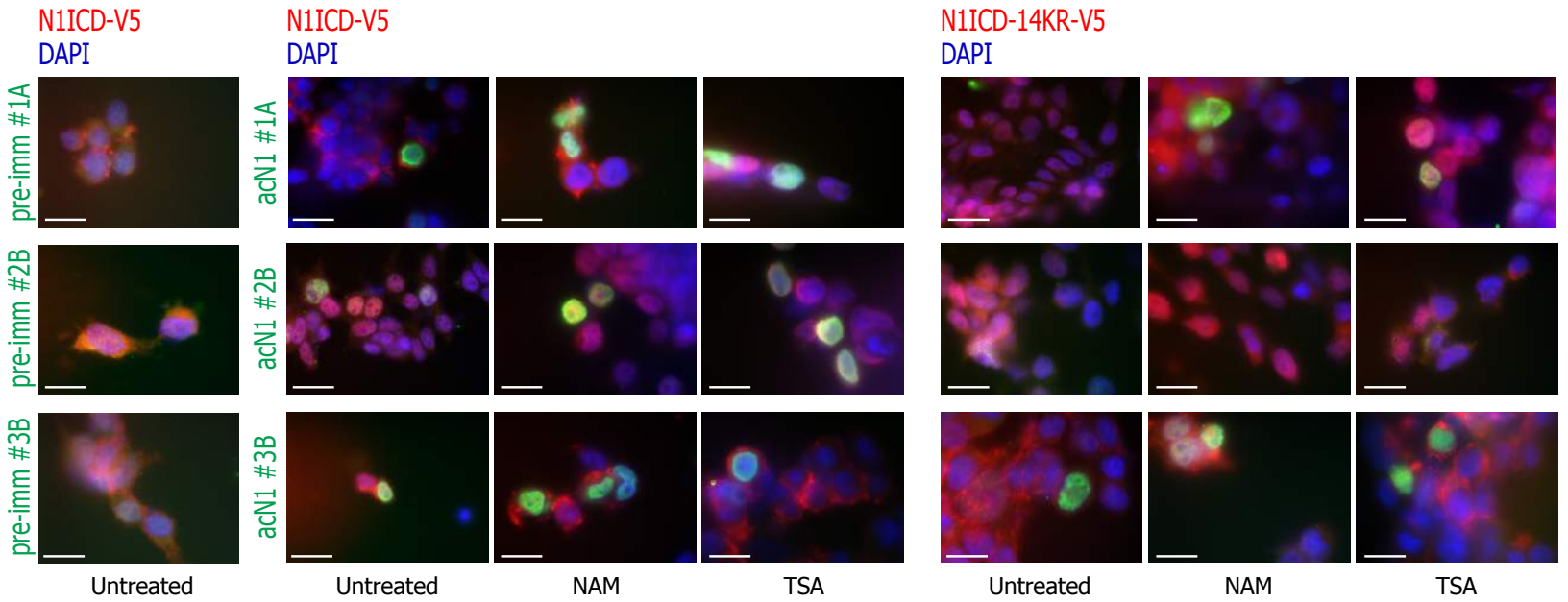
**A**



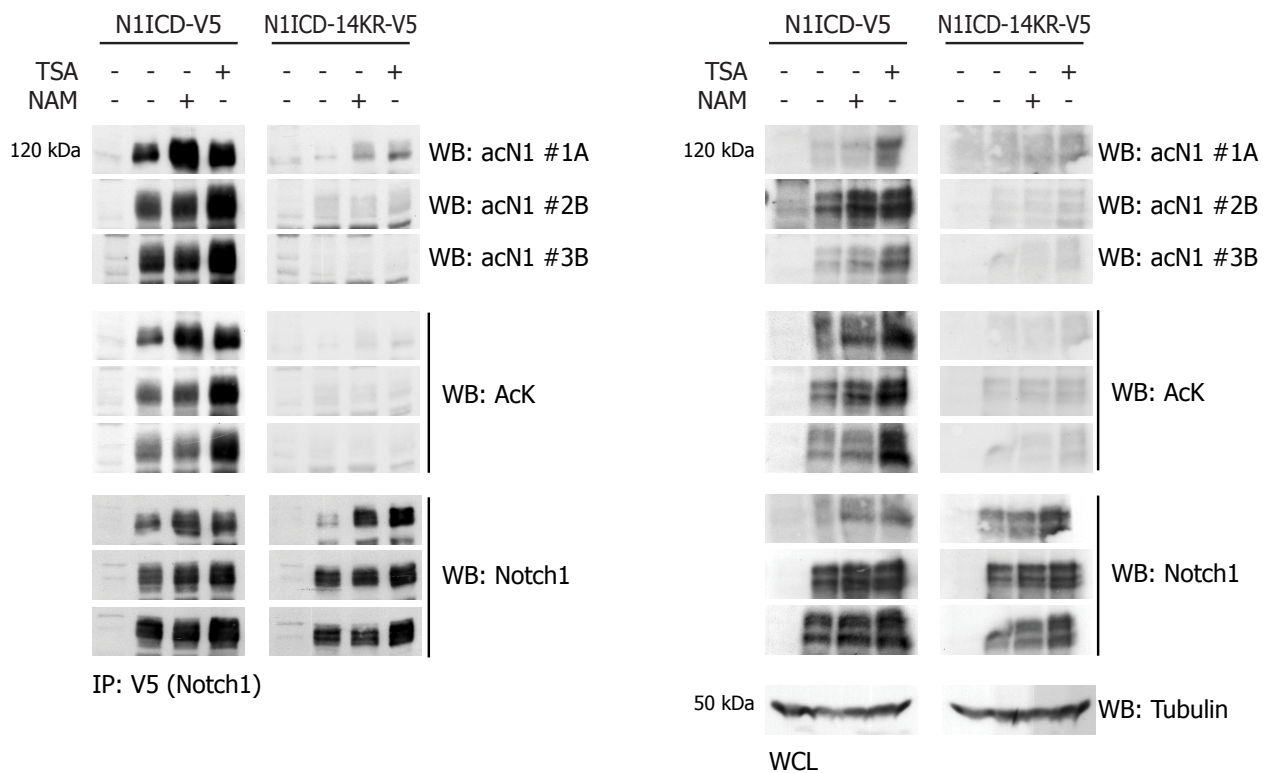
**B**



**C**

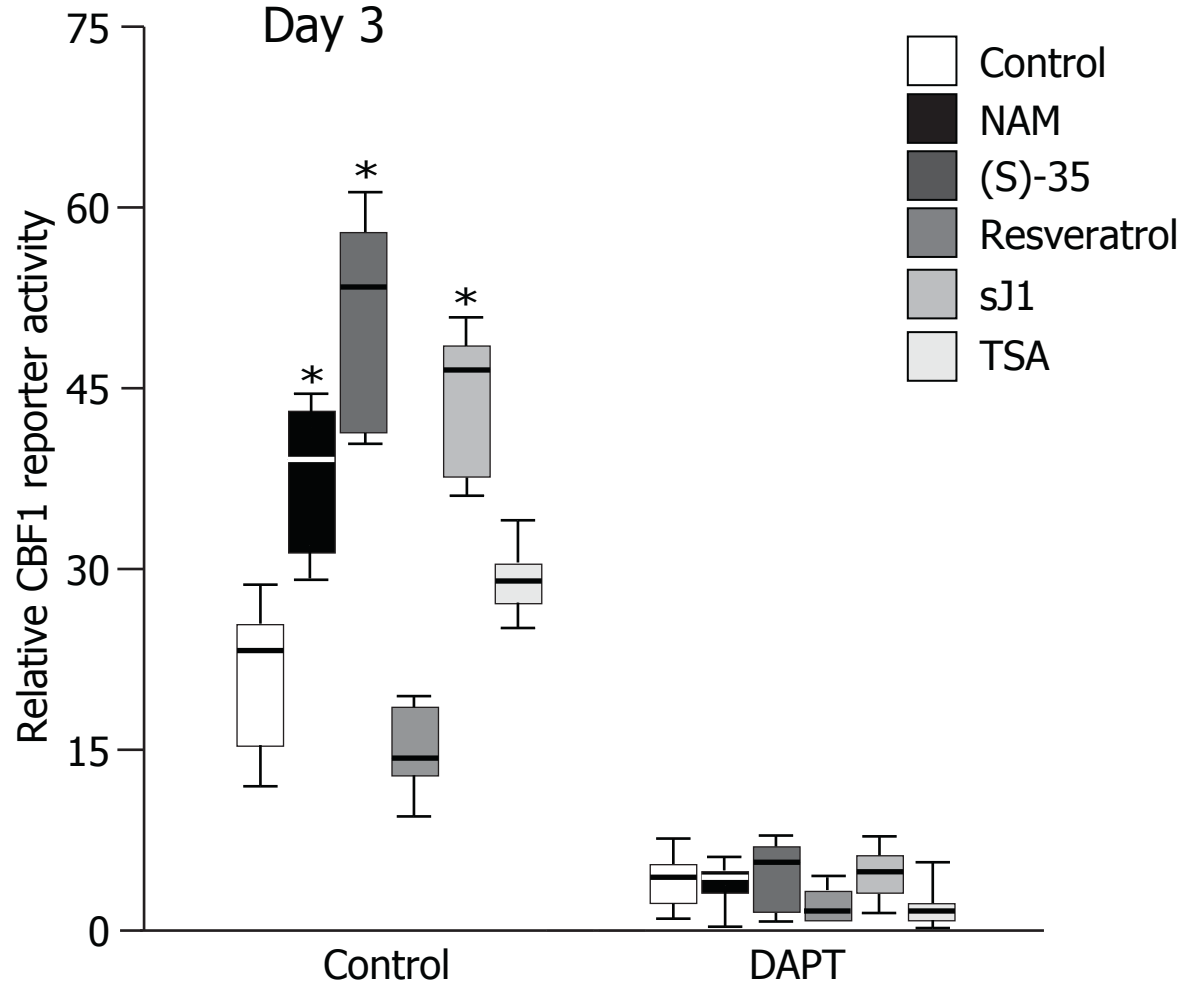


**D**

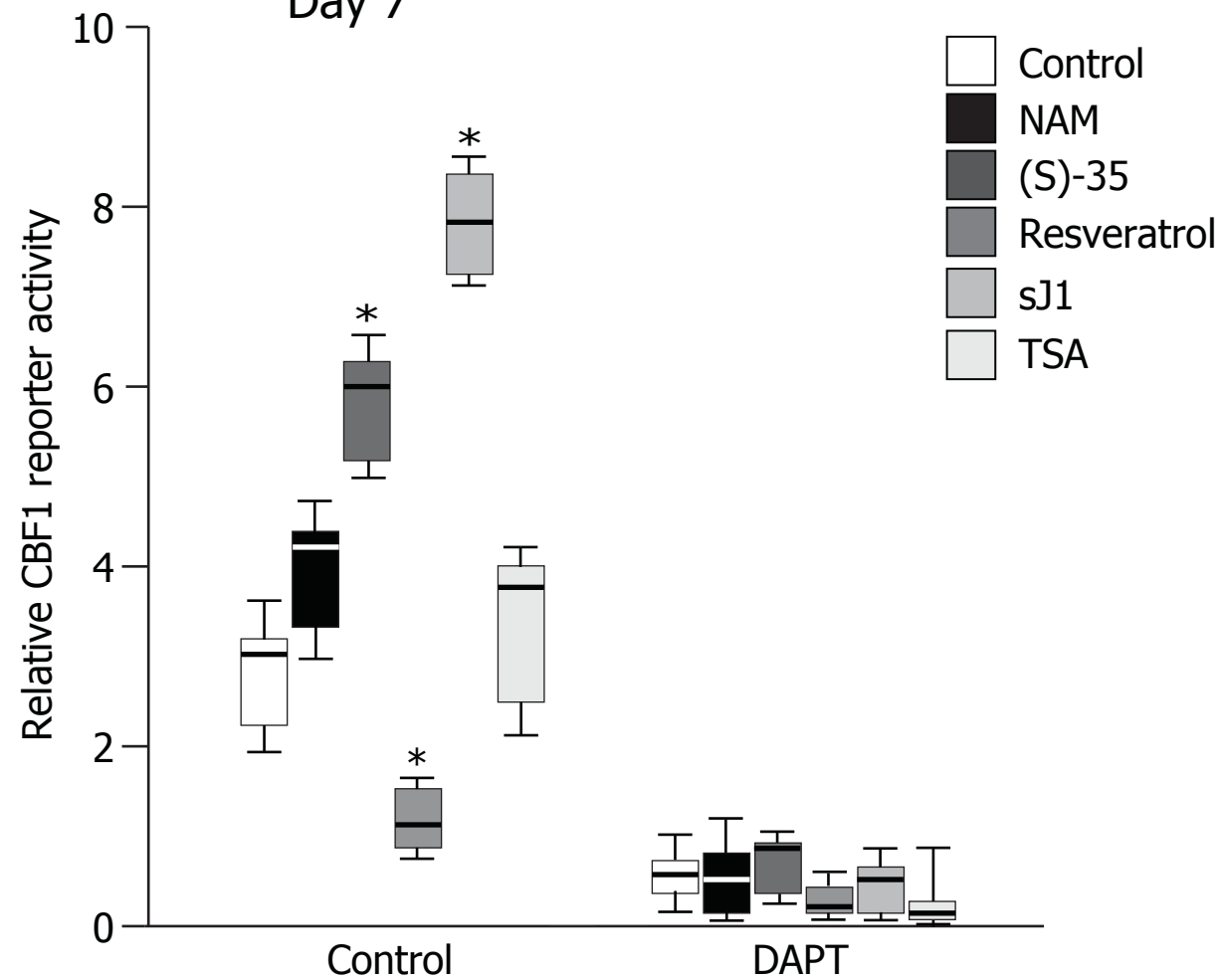


**A**

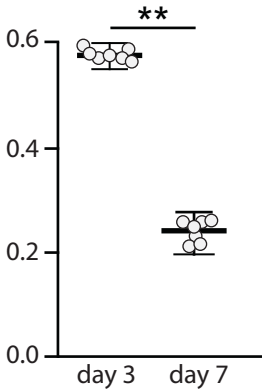
Transcription  
(Luciferase - CBF1 reporter)  
Day 3

**B**

Transcription  
(Luciferase - CBF1 reporter)  
Day 7

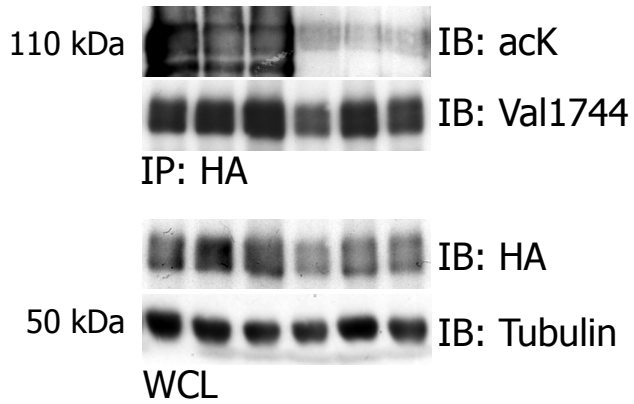


Hes1 Expression level  
(fold over HPRT)



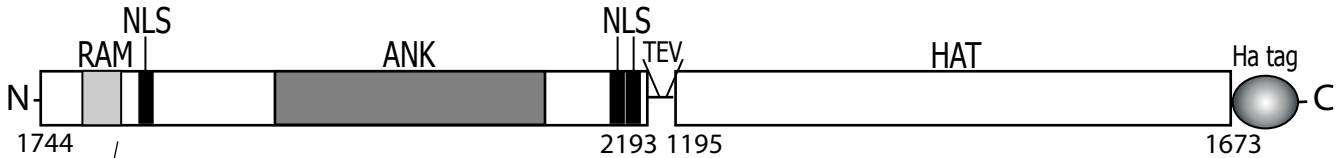
# A

N1ICD( $\Delta$ C)-HAT-HA:	+	+	+	-	-	-
N1ICD( $\Delta$ C)-D1395YHAT-HA:	-	-	-	+	+	+
TSA:	-	-	+	-	-	+
NAM:	-	+	-	-	+	-

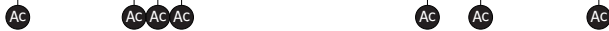


# B

N1ICD( $\Delta$ C)-HAT



1761 EGFKWSEASKKKRREPLGEDSVGLKPLKNAS...TKKF 1813

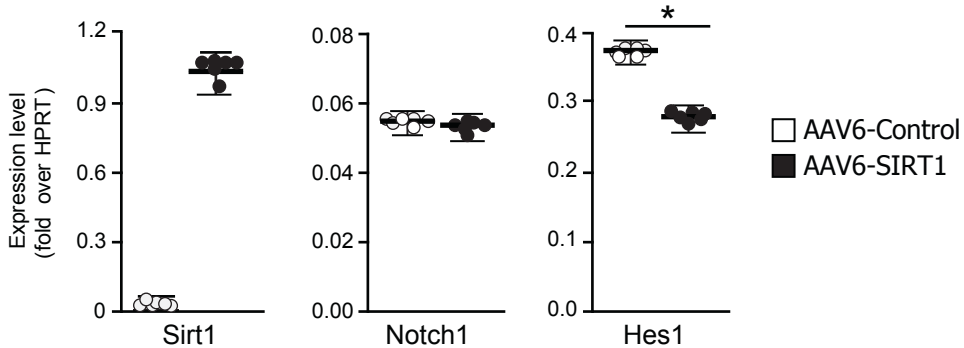


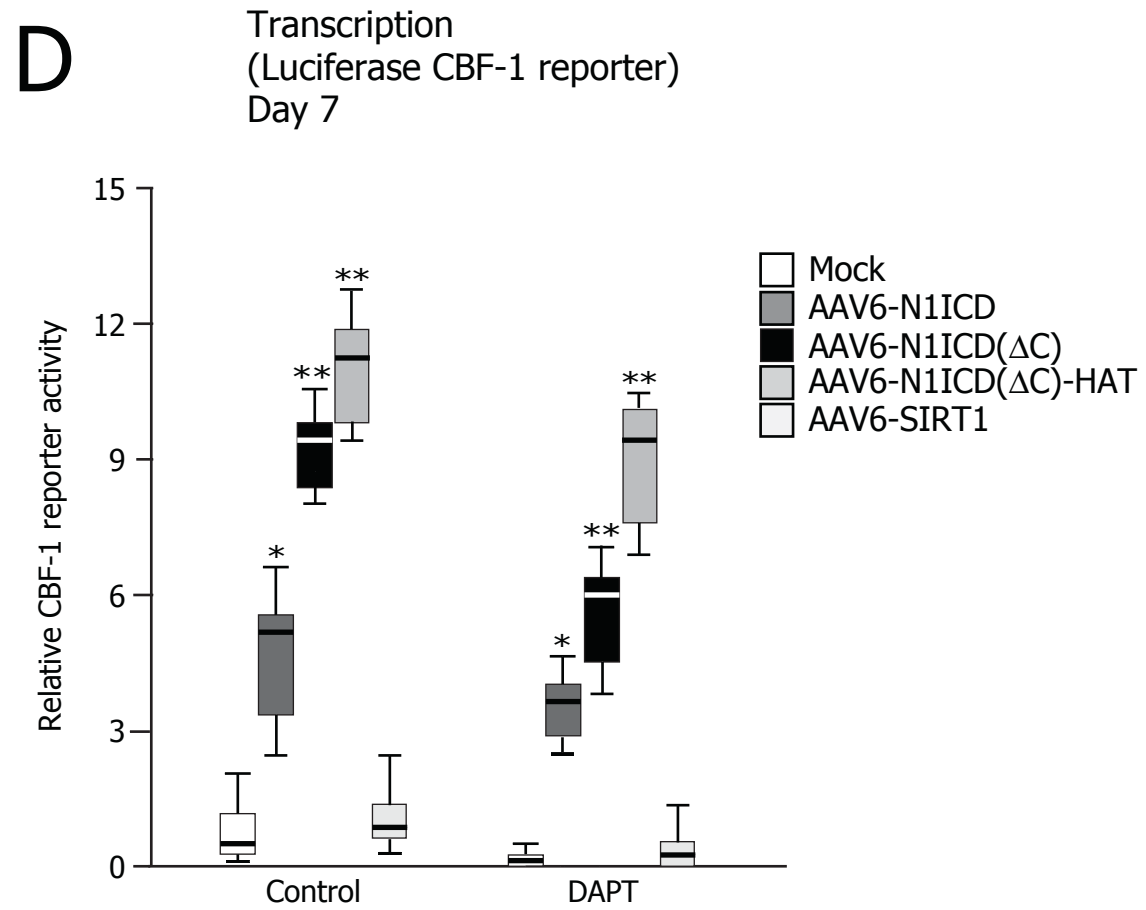
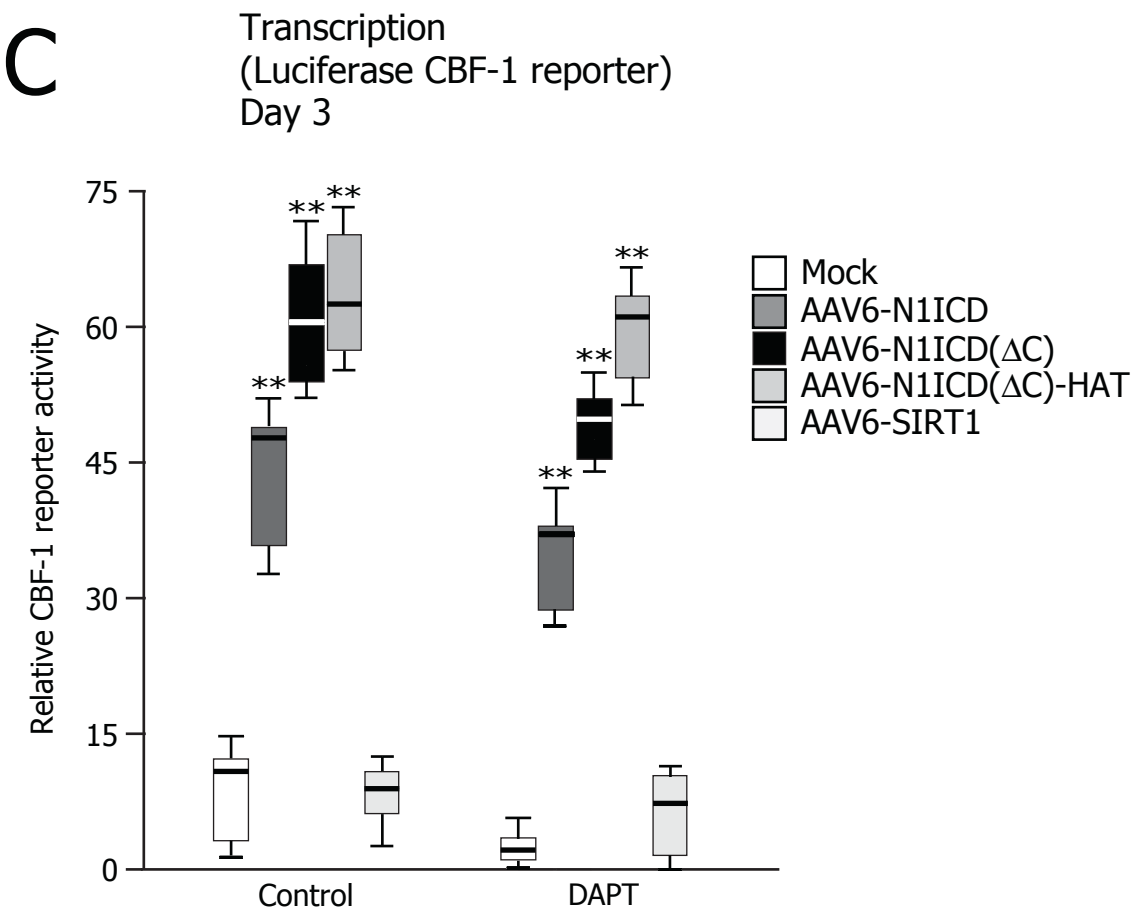
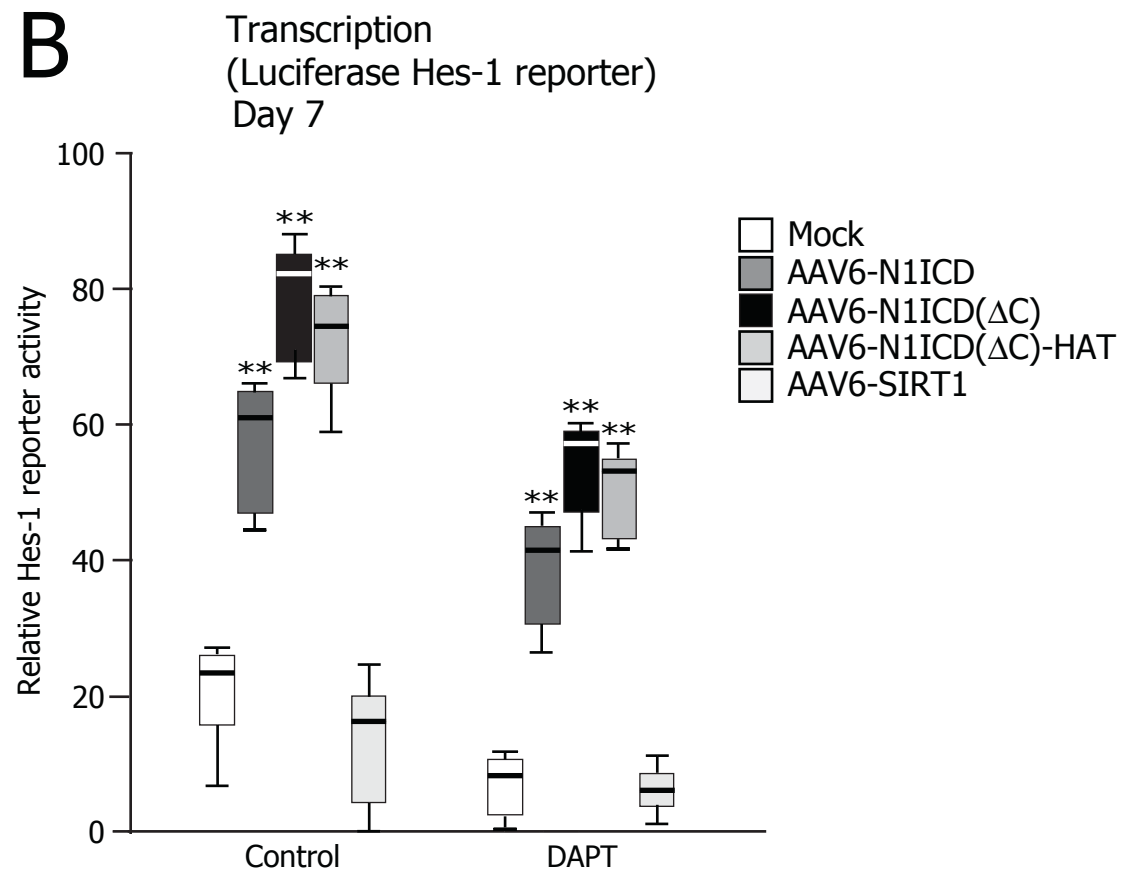
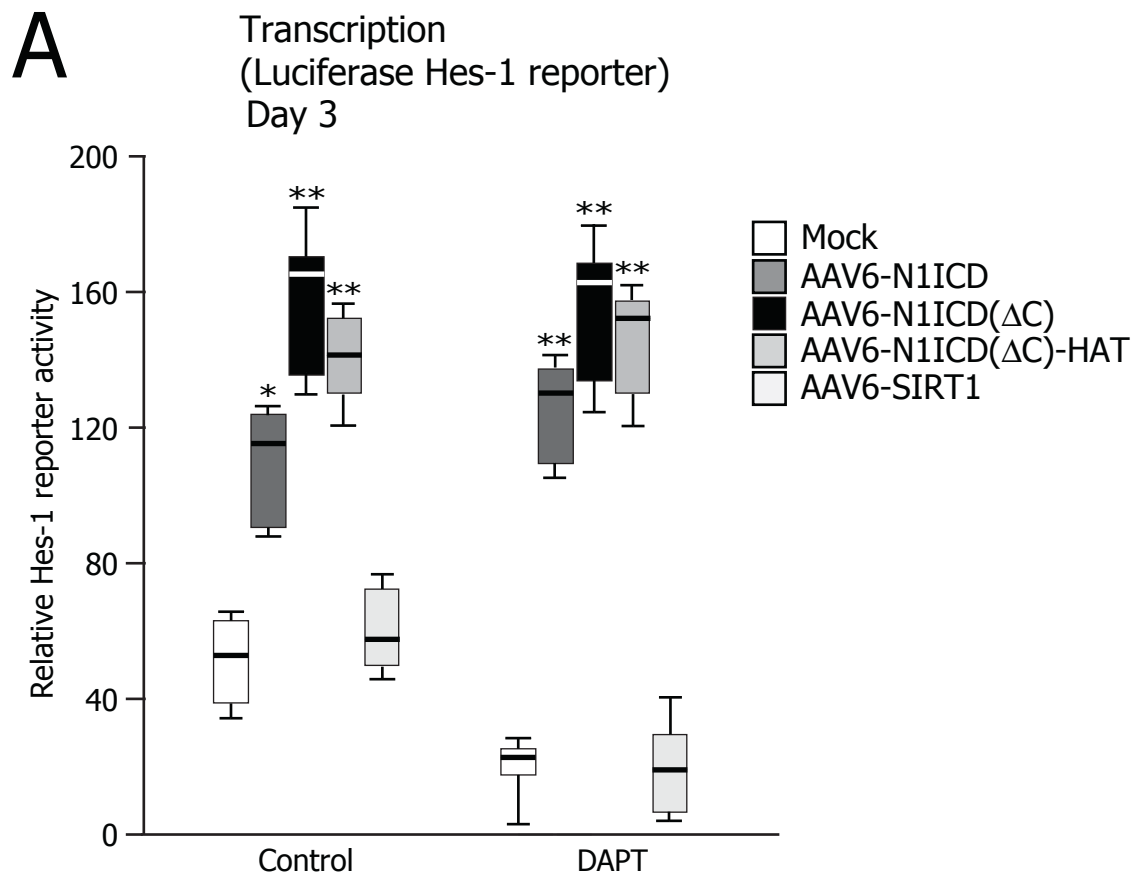
2039 LKNGANKDMQNNKEETPLFLAAREGSYETAKVL 2070

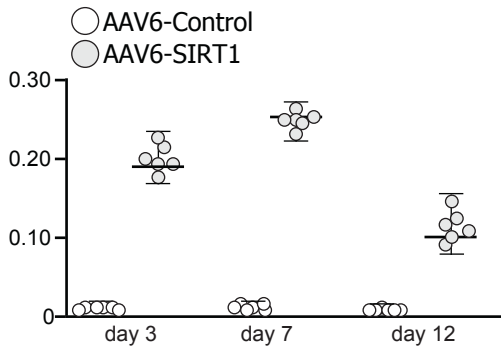
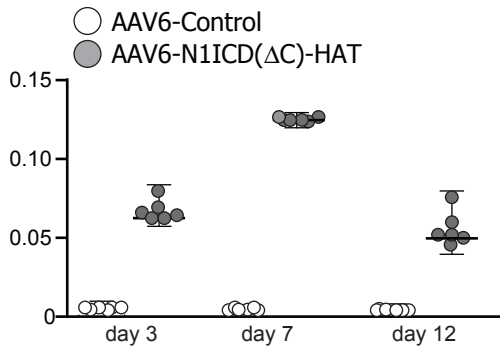
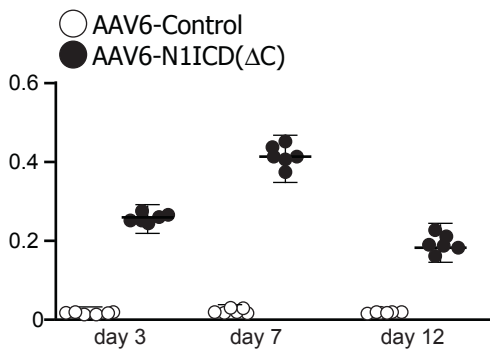
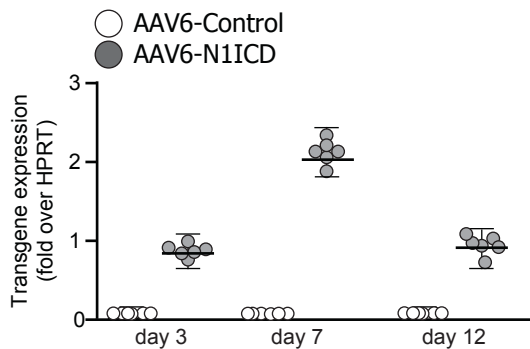


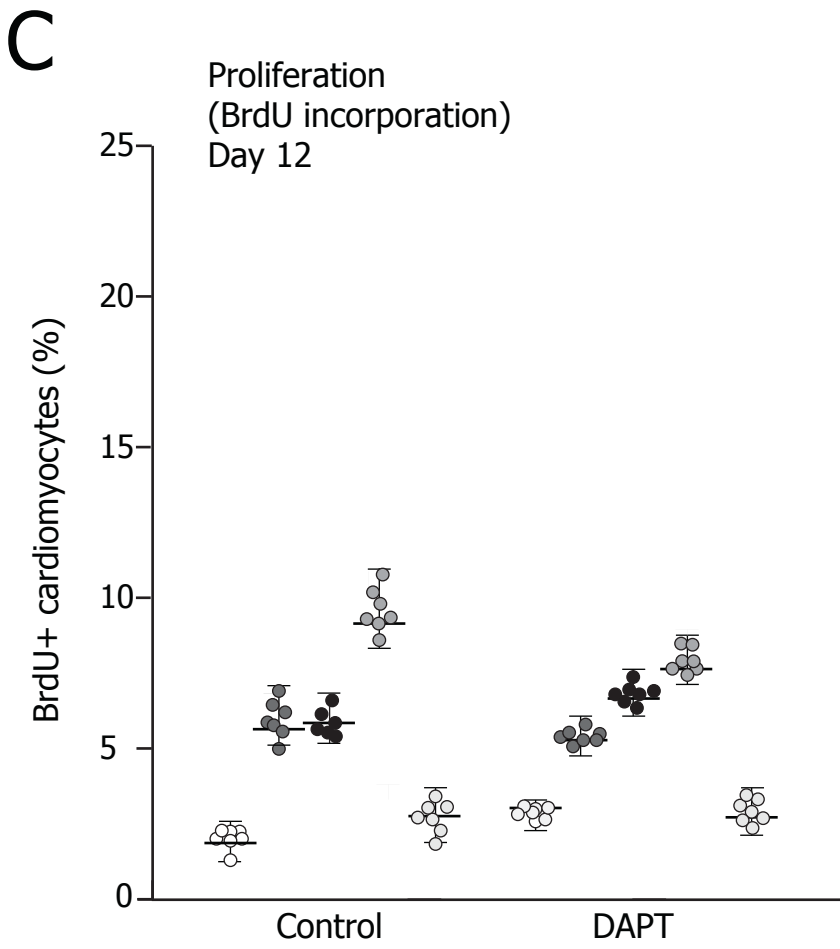
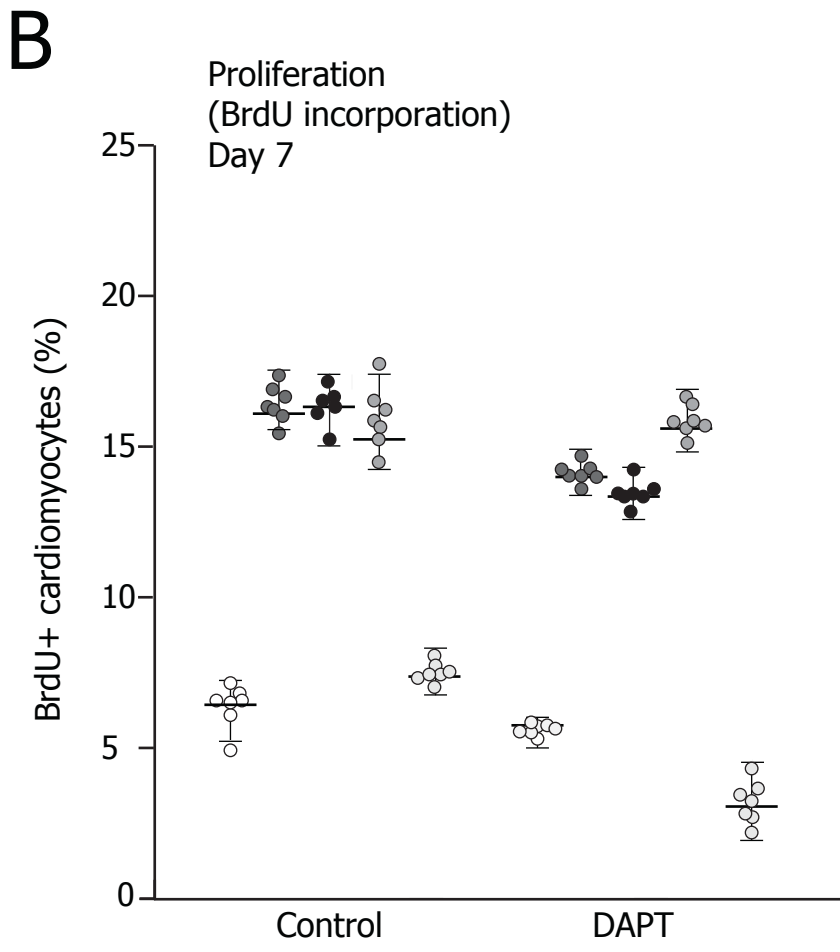
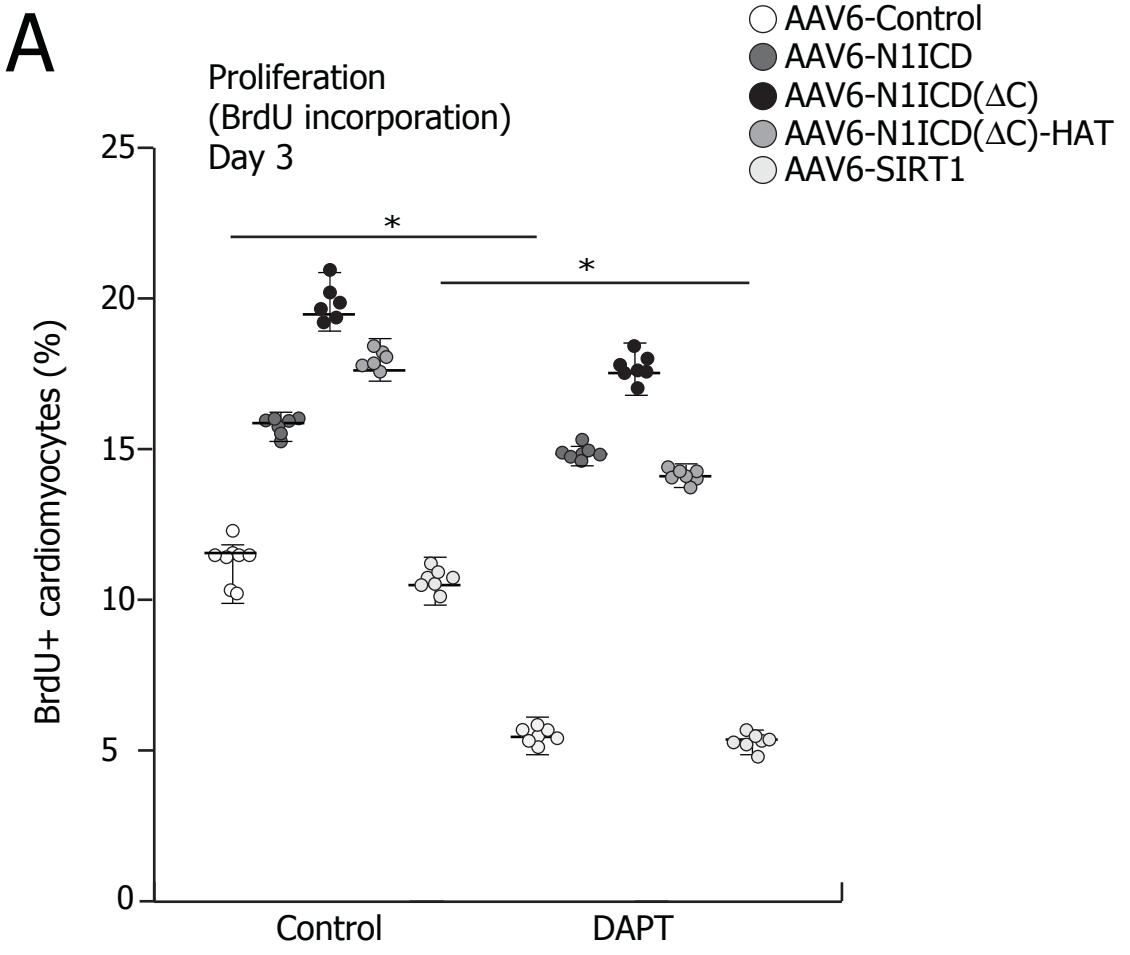
2139 LKPGVQGKKARKPSTKGLASGSKEAKDLKARRKKSQDGK 2177





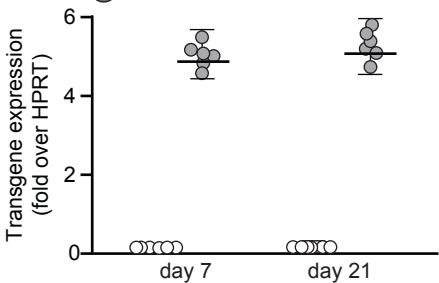




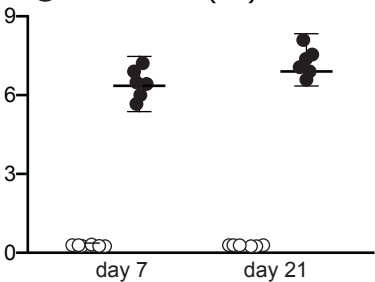




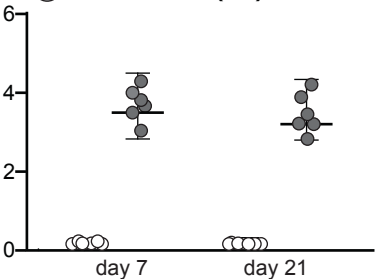
○ AAV9-Control  
● AAV9-N1ICD



○ AAV9-Control  
● AAV9-N1ICD( $\Delta$ C)

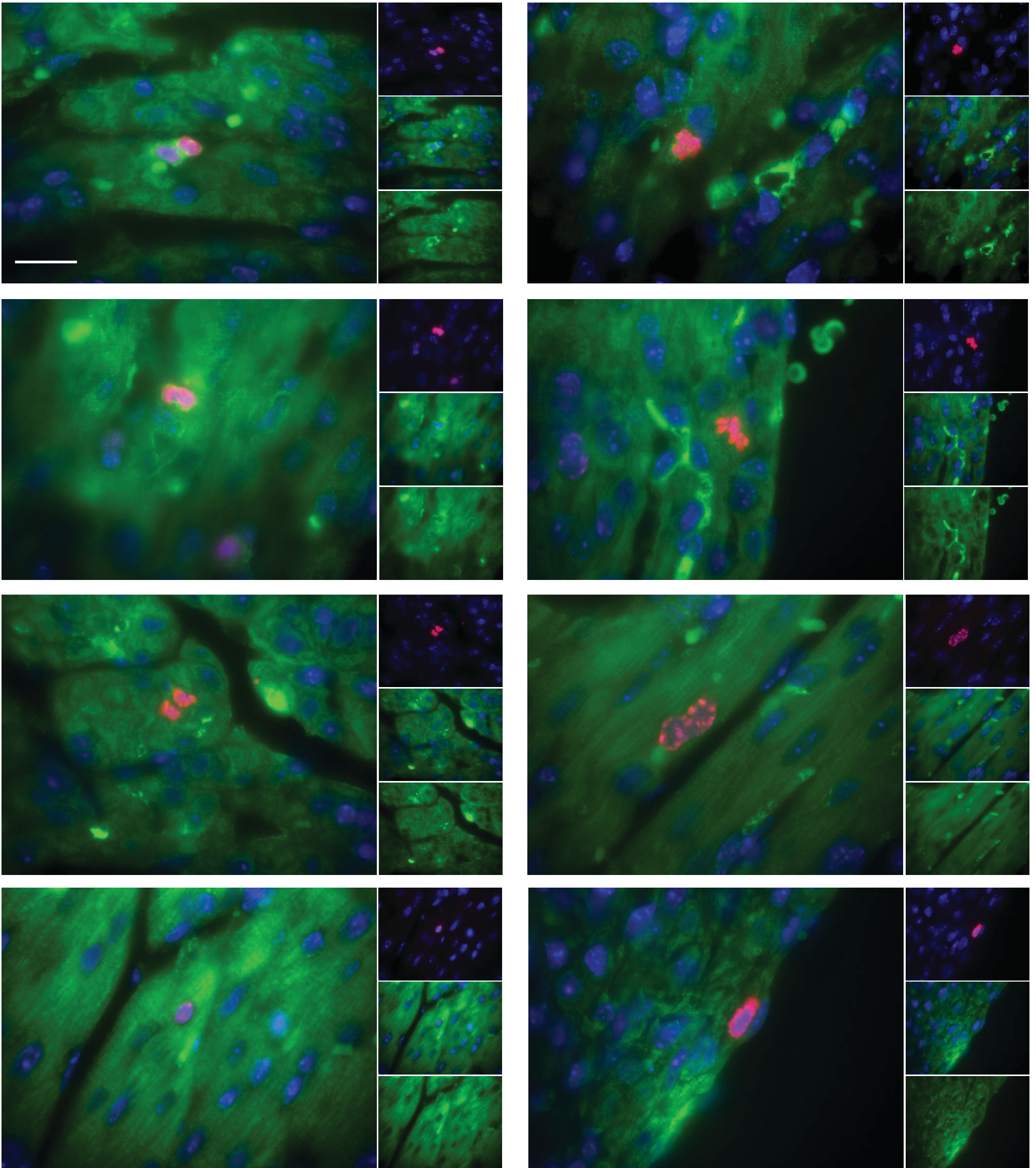


○ AAV9-Control  
● AAV9-N1ICD( $\Delta$ C)-HAT



# AAV9-N1ICD( $\Delta$ C)HAT

$\alpha$  actinin H3S10ph DAPI



Day 7: resected

Day 21: resected

**Supplementary Table I.** Summary of the acetylated lysines in N1ICD(DC)-HAT

spectrum	log(e)	log(l)	m+h	delta	z	zeta	pre	start	sequence	end	post	modifications
1683.1	-0.1	3	2787.42	1.288	3	0.375	srkr	1751	RRQHGLQLV	1772	rrep	Q [1753] 0.98402, Q [1756] 0.98402, W [1758] 15.99492, K [1764] 42.01000, K [1771] 42.01000, K [1772] 42.01000
46.1	-0.6	3.1	2444.235	1.823	3	0.5	rkr	1752	RQHGLQLWI	1771	krre	Q [1753] 0.98402, K [1764] 42.01000, K [1771] 42.01000
49.1	0	2.9	2545.33	-0.477	3	0.429	rkr	1752	RQHGLQLWI	1772	rrep	W [1758] 15.99492, K [1764] 42.01000
84.1	-11.1	2.81	2116.997	0.412	3	0.75	kr	1753	QHGLQLWFF	1770	kr	Q [1753] -17.02655, Q [1756] 0.98402, W [1758] 15.99492, K [1764] 42.01000
1726.1	-1.1	2.94	2270.123	-0.538	3	0.6	kr	1753	QHGLQLWFF	1771	krre	Q [1753] -17.02655, K [1764] 42.01000, K [1770] 42.01000
55.1	-8.3	2.73	2440.228	0.333	2	0.333	kr	1753	QHGLQLWFF	1772	rrep	Q [1753] -17.02655, K [1764] 42.01000, K [1770] 42.01000, K [1771] 42.01000
102.1	-4.5	3.24	2639.323	0.355	3	0.429	kr	1753	QHGLQLWFF	1773	repl	Q [1753] 0.98402, Q [1753] -17.02655, K [1764] 42.01000, K [1770] 42.01000, K [1771] 42.01000, K [1772] 42.01000
1693.1	-1.2	3.14	2684.405	-0.644	3	0.375	kr	1753	QHGLQLWFF	1774	eplg	Q [1753] -17.02655, W [1758] 15.99492, K [1771] 42.01000
110.1	-4.1	2.98	960.535	0.131	2	0.5	egfk	1765	VSEASKKK	1772	rrep	K [1770] 42.01000, K [1771] 42.01000
115.1	-4.3	3.05	1158.646	0.083	2	0.4	egfk	1765	VSEASKKKR	1773	repl	K [1770] 42.01000, K [1771] 42.01000, K [1772] 42.01000
1737.1	-1.6	3.16	2777.55	-0.656	3	0.375	egfk	1765	VSEASKKKR	1788	nasd	K [1770] 42.01000, K [1771] 42.01000, K [1788] 42.01000
119.1	-1.1	3.14	2006.138	1.93	3	0.5	askk	1772	KRRREPLGEC	1788	nasd	K [1772] 42.01000, K [1788] 42.01000
121.1	-5.4	3.01	4399.051	-0.473	4	0.667	kkkr	1774	REPLGEDSV	1812	frfe	K [1788] 42.01000, N [1789] 0.98402, K [1811] 42.01000
136.1	-5.8	2.95	1523.831	0.293	2	0.667	kkkr	1775	EPLGEDSVC	1788	nasd	K [1785] 42.01000
134.1	-0.2	3.31	4074.813	-0.536	4	1	kkrr	1775	EPLGEDSVC	1811	kfrf	N [1789] 0.98402, Q [1800] 0.98402, N [1801] 0.98402, K [1811] 42.01000
1748.1	-0.6	3.21	4242.95	0.536	4	0.8	kkrr	1775	EPLGEDSVC	1812	frfe	K [1785] 42.01000, N [1789] 0.98402, K [1811] 42.01000
150.1	-1.1	2.92	2738.136	-0.59	2	0.667	kplk	1789	NASDGALM	1812	frfe	N [1801] 0.98402, K [1811] 42.01000
2061.1	-7.1	2.89	2403.172	1.353	3	0.75	vllk	2040	NGANKDM	2060	egsy	K [2044] 42.01000
492.1	-1.1	2.9	2054.007	0.275	3	1	qnnk	2051	EETPLFLAAI	2068	vild	K [2068] 42.01000
504.1	-3.9	2.64	1991.982	1.31	2	0.5	laar	2061	EGSYETAKV	2077	ditd	K [2068] 42.01000
2111.1	-2.7	2.69	1031.547	-0.762	2	0.5	gnlk	2141	SATQGKKAI	2149	kpst	Q [2144] 0.98402, K [2146] 42.01000, K [2147] 42.01000
2109.1	-1.3	3.01	2203.197	2.344	3	0.429	gnlk	2141	SATQGKKAI	2161	eakd	K [2154] 42.01000, C [2158] 57.02147
2113.1	-1.5	3.18	2573.382	-0.14	3	0.375	gnlk	2141	SATQGKKAI	2164	dlka	K [2146] 42.01000, C [2158] 57.02147, K [2164] 42.01000
532.1	-0.4	2.94	1630.905	0.391	3	0.5	tqgk	2147	KARKPSTKC	2161	eakd	K [2154] 42.01000, C [2158] 57.02147
2117.1	-0.1	3.06	1959.08	-0.894	3	0.429	tqgk	2147	KARKPSTKC	2164	dlka	K [2154] 42.01000, C [2158] 57.02147
2118.1	-1.4	3.1	2399.306	1.554	3	0.375	tqgk	2147	KARKPSTKC	2167	arrk	K [2154] 42.01000, C [2158] 57.02147, K [2164] 42.01000, K [2167] 42.01000
2121.1	-0.5	2.94	1544.82	2.368	3	0.6	qgkk	2148	ARKPSTKGL	2161	eakd	K [2154] 42.01000, C [2158] 57.02147, K [2161] 42.01000
2122.1	-0.7	3.04	2456.339	0.192	3	0.375	qgkk	2148	ARKPSTKGL	2169	rkks	K [2150] 42.01000, C [2158] 57.02147, K [2164] 42.01000
541.1	-0.3	3.17	1645.857	1.054	3	0.6	kkar	2150	KPSTKGLAC	2164	dlka	K [2154] 42.01000, C [2158] 57.02147, K [2161] 42.01000
539.1	-0.5	3.11	2044.073	2.034	3	0.5	kkar	2150	KPSTKGLAC	2167	arrk	K [2150] 42.01000, C [2158] 57.02147, K [2164] 42.01000, K [2167] 42.01000
537.1	-0.5	2.83	2271.211	-0.663	3	0.429	kkar	2150	KPSTKGLAC	2169	rkks	K [2154] 42.01000, C [2158] 57.02147, K [2164] 42.01000, K [2167] 42.01000
538.1	-0.4	2.76	2427.312	-0.018	3	0.375	kkar	2150	KPSTKGLAC	2170	kksq	K [2150] 42.01000, K [2154] 42.01000, C [2158] 57.02147, K [2161] 42.01000
2127.1	-1	2.99	1645.868	2.165	2	0.4	pstk	2155	GLACGSKEA	2169	rkks	C [2158] 57.02147, K [2161] 42.01000
2128.1	-0.7	2.85	1843.98	0.085	3	0.5	pstk	2155	GLACGSKEA	2170	kksq	C [2158] 57.02147, K [2161] 42.01000, K [2164] 42.01000
2129.1	-1.6	2.73	1014.557	0.124	2	0.5	cgsk	2162	EAKDLKAR	2169	rkks	K [2164] 42.01000, K [2167] 42.01000
2130.1	-0.2	2.75	1140.683	1.089	2	0.333	keak	2165	DLKARRKK	2172	sqdg	K [2167] 42.01000, K [2171] 42.01000, K [2172] 42.01000
3231.1	-0.2	2.67	1257.701	-0.508	2	0.333	kdik	2168	ARRKKSQDI	2177	gcll	K [2171] 42.01000, K [2172] 42.01000

**Supplementary Table II.** Primers used to analyze gene expression levels

Notch1	Forward	GTGCCTGCCCTTTGAGTCTT
	Reverse	GCGATAGGAGCCAATCTCATTG
Hes1	Forward	GCACCTCCGGAACCTGCAGCG
	Reverse	GCAGCCGAGTGCGCACCTCGGTG
Sirt1	Forward	GACATGCCAGAGTCCAAGTTTA
	Reverse	CCAAATCCAGTCCTCCAG
HPRT	Forward	CAGTCAACGGGGGACATAAA
	Reverse	GGGCTGTACTGCTTGACCAA