Poly-acetylated chromatin signatures are preferred epitopes for site-specific histone H4 acetyl antibodies

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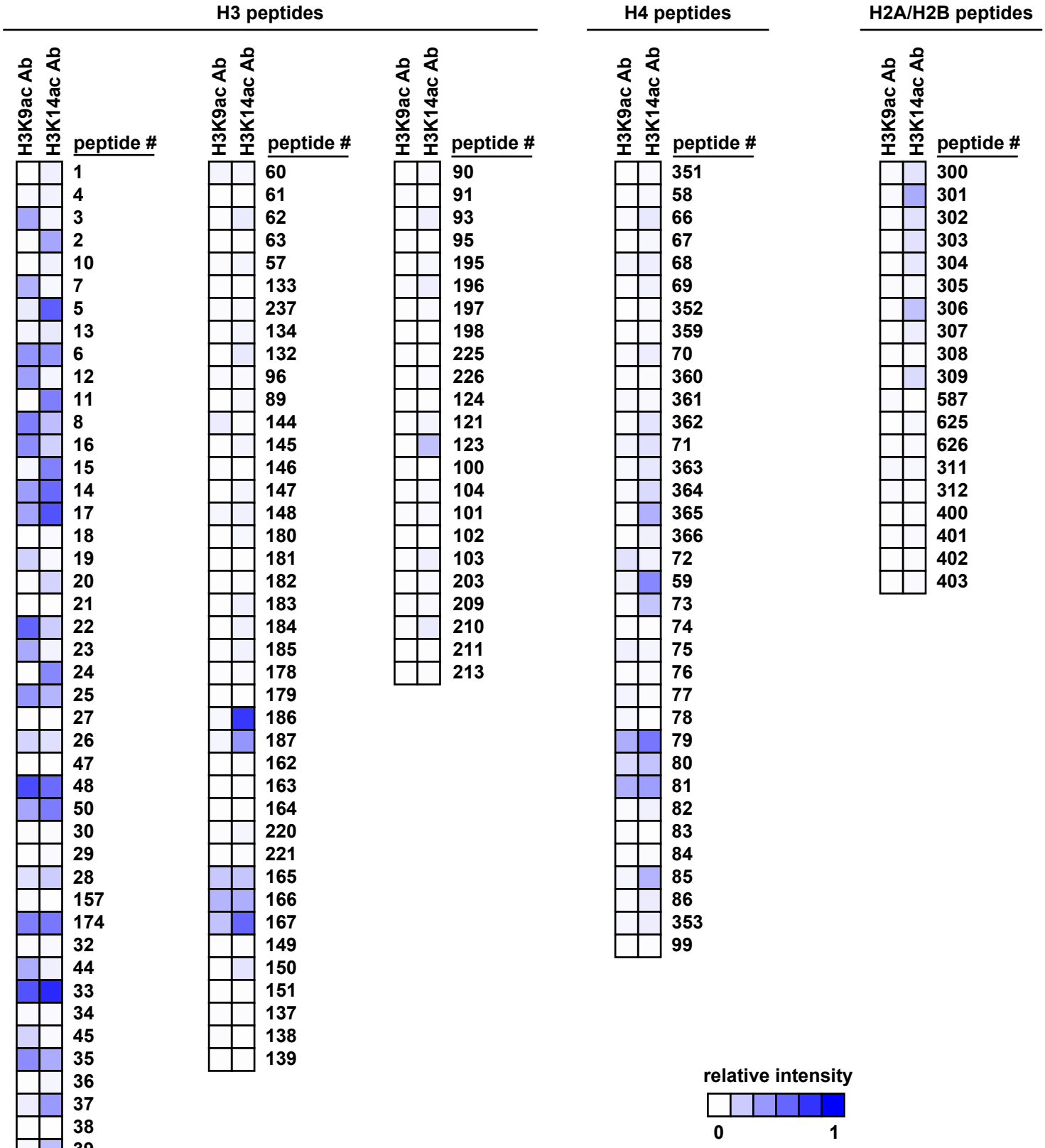
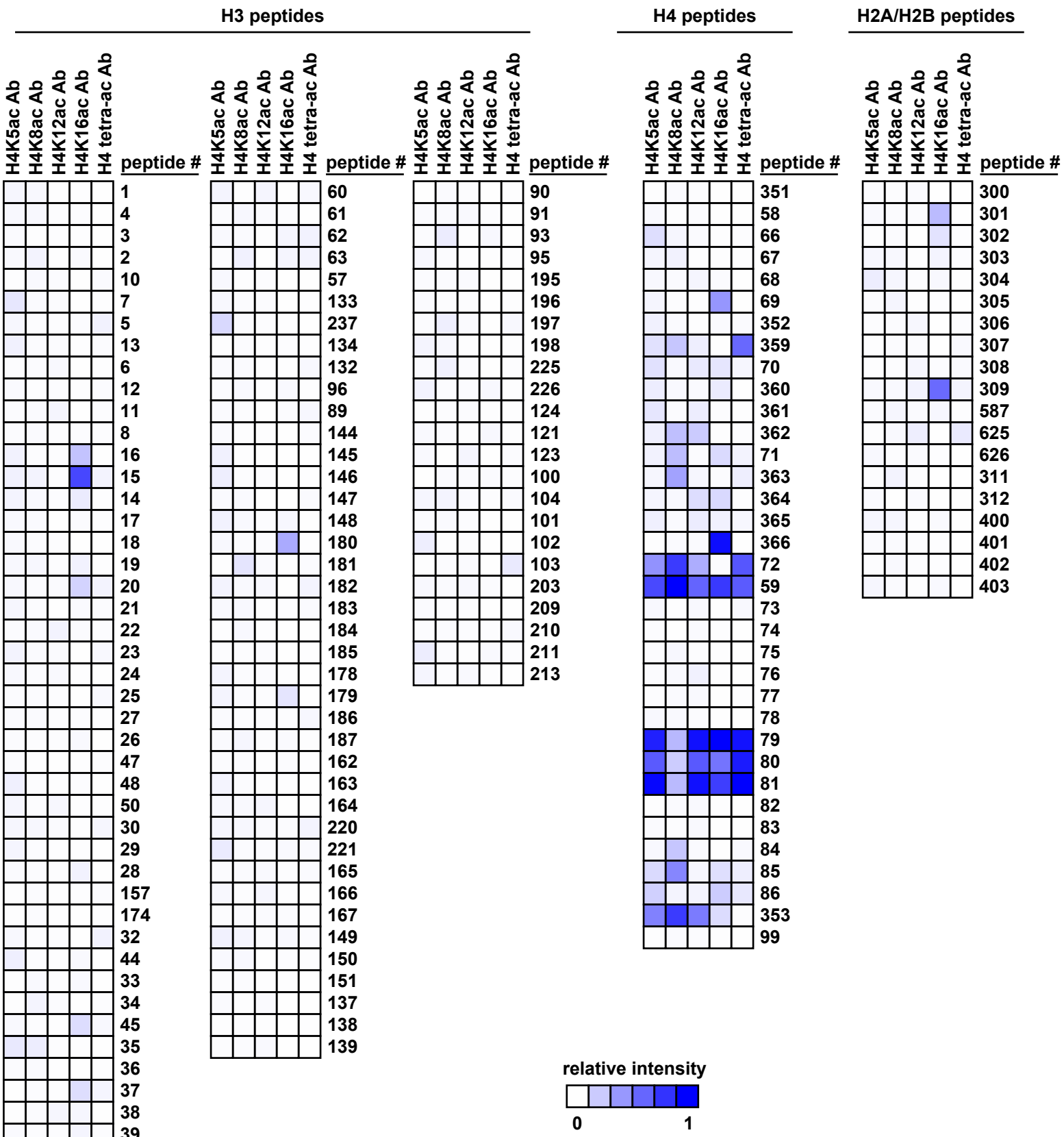
SUPPLEMENTARY INFORMATION

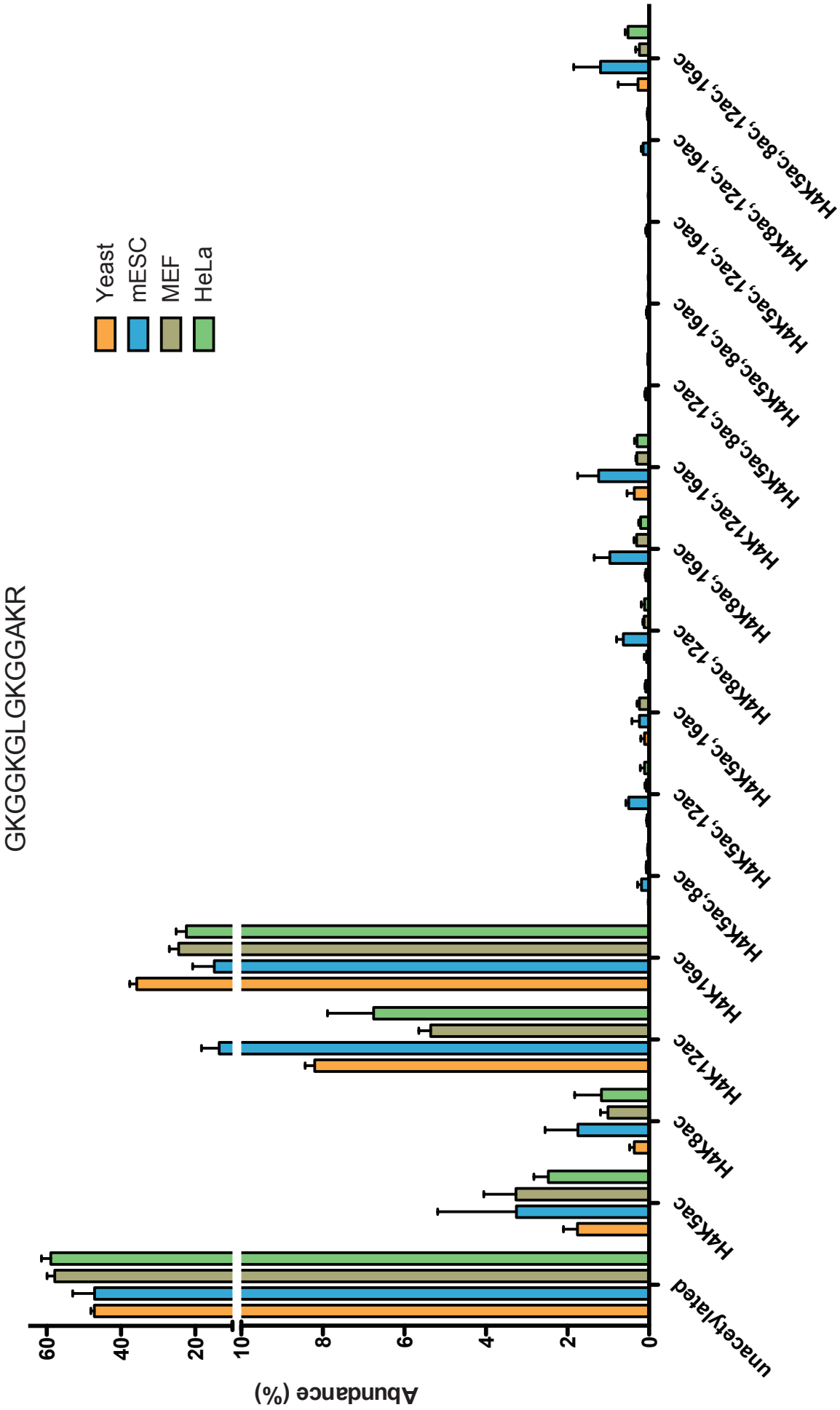
Supplemental Figure 1. Rothbart *et al*



Supplemental Figure 2. Rothbart *et al*



Supplemental Figure 3. Rothbart *et al*



Supplemental Table 1. List of Peptides

Peptide #		Sequence	annotation
1	H3 1-20	AR^{2}TK^{4}QTAR^{8}K^{9}S^{10}TGGK^{14}APRK^{18}QL-K(Biot)-NH_2	H3 (1-20)
2	H3 1-20	ARTKQTARKSTGGK(Ac)APRKQL-K(Biot)-NH_2	H3K14ac
3	H3 1-20	ARTKQTARK(Ac)STGGKAPRKQL-K(Biot)-NH_2	H3K9ac
4	H3 1-20	ARTK(Ac)QTARKSTGGKAPRKQL-K(Biot)-NH_2	H3K4ac
5	H3 1-20	ARTK(Ac)QTARKSTGGK(Ac)APRKQL-K(Biot)-NH_2	H3K4ac + K14ac
6	H3 1-20	ARTKQTARK(Ac)STGGK(Ac)APRKQL-K(Biot)-NH_2	H3K9ac + K14ac
7	H3 1-20	ARTK(Ac)QTARK(Ac)STGGKAPRKQL-K(Biot)-NH_2	H3K4ac + K9ac
8	H3 1-20	ARTK(Ac)QTARK(Ac)STGGK(Ac)APRKQL-K(Biot)-NH_2	H3K4ac + K9ac + K14ac
10	H3 1-20	ARTKQTARKSTGGKAPRK(Ac)QL-K(Biot)-NH_2	H3K18ac
11	H3 1-20	ARTKQTARKSTGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3K14ac + K18ac
12	H3 1-20	ARTKQTARK(Ac)STGGKAPRK(Ac)QL-K(Biot)-NH_2	H3K9ac + K18ac
13	H3 1-20	ARTK(Ac)QTARKSTGGKAPRK(Ac)QL-K(Biot)-NH_2	H3K4ac + K18ac
14	H3 1-20	ARTKQTARK(Ac)STGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3K9ac + K14ac + K18ac
15	H3 1-20	ARTK(Ac)QTARKSTGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3K4ac + K14ac + K18ac
16	H3 1-20	ARTK(Ac)QTARK(Ac)STGGKAPRK(Ac)QL-K(Biot)-NH_2	H3K4ac + K9ac + K18ac
17	H3 1-20	ARTK(Ac)QTARK(Ac)STGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3K4ac + K9ac + K14ac + K18ac
18	H3 1-20	ARTK(Me$_3$)QTARKSTGGKAPRKQL-K(Biot)-NH_2	H3K4me3
19	H3 1-20	ARTK(Me$_3$)QTARK(Ac)STGGKAPRKQL-K(Biot)-NH_2	H3K4me3 + K9ac
20	H3 1-20	ARTK(Me$_3$)QTARKSTGGK(Ac)APRKQL-K(Biot)-NH_2	H3K4me3 + K14ac
21	H3 1-20	ARTK(Me$_3$)QTARKSTGGKAPRK(Ac)QL-K(Biot)-NH_2	H3K4me3 + K18ac
22	H3 1-20	ARTK(Me$_3$)QTARK(Ac)STGGK(Ac)APRKQL-K(Biot)-NH_2	H3K4me3 + K9ac + K14ac
23	H3 1-20	ARTK(Me$_3$)QTARK(Ac)STGGKAPRK(Ac)QL-K(Biot)-NH_2	H3K4me3 + K9ac + K18ac
24	H3 1-20	ARTK(Me$_3$)QTARKSTGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3K4me3 + K14ac + K18ac
25	H3 1-20	ARTK(Me$_3$)QTARK(Ac)STGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3K4me3 + K9ac + K14ac + K18ac
26	H3 1-20	ARpTK(Me$_3$)QTARK(Ac)STGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3T3p + K4me3 + K9ac + K14ac + K18ac
27	H3 1-20	ARpTK(Me$_3$)QTARKSTGGKAPRKQL-K(Biot)-NH_2	H3T3p + K4me3
28	H3 1-20	AR(Me$_2$a)pTK(Me$_3$)QTARK(Ac)STGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3R2me2a + T3p + K4me3 + K9ac + K14ac + K18ac
29	H3 1-20	AR(Me$_2$a)pTK(Me$_3$)QTARKSTGGKAPRKQL-K(Biot)-NH_2	H3R2me2a + T3p + K4me3
30	H3 1-20	AR(Me$_2$a)TK(Me$_3$)QTARKSTGGKAPRKQL-K(Biot)-NH_2	H3R2me2a + K4me3
32	H3 1-20	ARTK(Me$_2$)QTARKSTGGKAPRKQL-K(Biot)-NH_2	H3K4me2
33	H3 1-20	ARTK(Me$_2$)QTARK(Ac)STGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3K4me2 + K9ac + K14ac + K18ac
34	H3 1-20	ARTK(Me)Q TARKSTGGKAPRKQL-K(Biot)-NH_2	H3K4me1
35	H3 1-20	ARTK(Me)QTARK(Ac)STGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3K4me1 + K9ac + K14ac + K18ac
36	H3 1-20	ARTKQTARKpSTGGKAPRKQL-K(Biot)-NH_2	H3S10p
37	H3 1-20	ARTK(Ac)QTARK(Ac)pSTGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3K4ac + K9ac + S10p + K14ac + K18ac
38	H3 1-20	ARTK(Me$_3$)QTARKpSTGGKAPRKQL-K(Biot)-NH_2	H3K4me3 + S10p
39	H3 1-20	ARTK(Me$_3$)QTARK(Ac)pSTGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3K4me3 + K9ac + S10p + K14ac + K18ac
40	H3 1-20	AR(Me$_2$a)TK(Me$_3$)QTARKpSTGGKAPRKQL-K(Biot)-NH_2	H3R2me2a + K4me3 + S10p
41	H3 1-20	AR(Me$_2$a)TK(Me$_3$)QTARK(Ac)pSTGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3R2me2a + K4me3 + K9ac + S10p + K14ac + K18ac
42	H3 1-20	ARTKQTARK(Me$_3$)STGGKAPRKQL-K(Biot)-NH_2	H3K9me3
43	H3 1-20	ARTK(Ac)QTARK(Me$_3$)STGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	H3K4ac + K9me3 + K14ac + K18ac
44	H3 1-20	ARTK(Me$_2$)QTARK(Ac)STGGKAPRK(Ac)QL-K(Biot)-NH_2	H3K4me2 + K9ac + K18ac

45	**H3 1-20**	ARTK(Me)QTARK(Ac)STGGKAPRK(Ac)QL-K(Biot)-NH_2	**H3K4me1 + K9ac + K18ac**
47	**H3 1-20**	AR(Me_2a)TKQTARKSTGGKAPRKQL-K(Biot)-NH_2	**H3R2me2a**
48	**H3 1-20**	AR(Me_2a)TK(Ac)QTARK(Ac)STGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	**H3R2me2a + K4ac + K9ac + K14ac + K18ac**
50	**H3 1-20**	AR(Me_2a)TK(Me_3)QTARK(Ac)STGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	**H3R2me2a + K4me3 + K9ac + K14ac + K18ac**
51	**H3 1-20**	AR(Me)TK(Me_3)QTARKSTGGKAPRKQL-K(Biot)-NH_2	**H3R2me1 + K4me3**
52	**H3 1-20**	AR(Me)TK(Me_3)QTARK(Ac)STGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	**H3R2me1 + K4me3 + K9ac + K14ac + K18ac**
53	**H3 1-20**	ACitTKQTARKSTGGKAPRKQL-K(Biot)-NH_2	**H3Cit2**
54	**H3 1-20**	ACitTK(Me_3)QTARKSTGGKAPRKQL-K(Biot)-NH_2	**H3Cit2 + K4me3**
55	**H3 1-20**	ACitTK(Me_3)QTARK(Ac)STGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	**H3Cit2 + K4me3 + K9ac + K14ac + K18ac**
56	**H3 1-20**	ACitTK(Ac)QTARK(Ac)STGGK(Ac)APRK(Ac)QL-K(Biot)-NH_2	**H3Cit2 + K4ac + K9ac + K14ac + K18ac**
57	**H3 1-20**	ARpTKQTARKSTGGKAPRKQL-**Peg**-K(Biot)-NH_2	**H3T3p**
58	**H4 1-23**	Ac-SGRGK^{5}GGKGLGKGGAKRHRKVLR-Peg-Biot	**H4 (1-23)**
59	**H4 1-23**	Ac-SGRGK(Ac)GGK(Ac)GLGK(Ac)GGAK(Ac)RHRKVLR-Peg-Biot	**H4K5ac + K8ac + K12ac + K16ac**
60	**H3 1-20**	AR(Me_2a)TK(Me_2)QTARKSTGGKAPRKQL-K(Biot)-NH_2	**H3R2me2a + K4me2**
61	**H3 1-20**	AR(Me_2s)TK(Me_2)QTARKSTGGKAPRKQL-K(Biot)-NH_2	**H3R2me2s + K4me2**
62	**H3 1-20**	AR(Me)TK(Me_2)QTARKSTGGKAPRKQL-K(Biot)-NH_2	**H3R2me1 + K4me2**
63	**H3 1-20**	ACitTK(Me_2)QTARKSTGGKAPRKQL-K(Biot)-NH_2	**H3Cit2 + K4me2**
66	**H4 1-23**	Ac-SGRGK(Ac)GGKGLGKGGAKRHRKVLR-Peg-Biot	**H4K5ac**
67	**H4 1-23**	Ac-SGRGKGGK(Ac)GLGKGGAKRHRKVLR-Peg-Biot	**H4K8ac**
68	**H4 1-23**	Ac-SGRGKGGKGLGK(Ac)GGAKRHRKVLR-Peg-Biot	**H4K12ac**
69	**H4 1-23**	Ac-SGRGKGGKGLGKGGAK(Ac)RHRKVLR-Peg-Biot	**H4K16ac**
70	**H4 1-23**	Ac-SGRGK(Ac)GGKGLGK(Ac)GGAKRHRKVLR-Peg-Biot	**H4K5ac + K12ac**
71	**H4 1-23**	Ac-SGRGKGGK(Ac)GLGKGGAK(Ac)RHRKVLR-Peg-Biot	**H4K8ac + K16ac**
72	**H4 1-23**	Ac-SGRGK(Ac)GGK(Ac)GLGK(Ac)GGAKRHRKVLR-Peg-Biot	**H4K5ac + K8ac + K12ac**
73	**H4 1-23**	Ac-SGR(Me_2a)GKGGKGLGKGGAKRHRKVLR-K(Biot)-NH_2	**H4R3me2a**
74	**H4 1-23**	Ac-SGR(Me_2s)GKGGKGLGKGGAKRHRKVLR-K(Biot)-NH_2	**H4R3me2s**
75	**H4 1-23**	Ac-SGR(Me)GKGGKGLGKGGAKRHRKVLR-K(Biot)-NH_2	**H4R3me1**
76	**H4 1-23**	Ac-pSGR(Me_2a)GKGGKGLGKGGAKRHRKVLR-K(Biot)-NH_2	**H4S1p + R3me2a**
77	**H4 1-23**	Ac-pSGR(Me_2s)GKGGKGLGKGGAKRHRKVLR-K(Biot)-NH_2	**H4S1p + R3me2s**
78	**H4 1-23**	Ac-pSGR(Me)GKGGKGLGKGGAKRHRKVLR-K(Biot)-NH_2	**H4S1p + R3me1**
79	**H4 1-23**	Ac-SGR(Me_2a)GK(Ac)GGK(Ac)GLGK(Ac)GGAK(Ac)RHRK(Ac)VLR-K(Biot)-NH_2	**H4R3me2a + K5ac + K8ac + K12ac + K16ac + K20ac**
80	**H4 1-23**	Ac-SGR(Me_2s)GK(Ac)GGK(Ac)GLGK(Ac)GGAK(Ac)RHRK(Ac)VLR-K(Biot)-NH_2	**H4R3me2s + K5ac + K8ac + K12ac + K16ac + K20ac**
81	**H4 1-23**	Ac-SGR(Me)GK(Ac)GGK(Ac)GLGK(Ac)GGAK(Ac)RHRK(Ac)VLR-K(Biot)-NH_2	**H4R3me1 + K5ac + K8ac + K12ac + K16ac + K20ac**
82	**H4 11-27**	Ac-GKGGAKRHRK(Me_3)VLRDNIQ-Peg-Biot	**H4K20me3**
83	**H4 11-27**	Ac-GKGGAKRHRK(Me_2)VLRDNIQ-Peg-Biot	**H4K20me2**
84	**H4 11-27**	Ac-GKGGAKRHRK(Me)VLRDNIQ-Peg-Biot	**H4K20me1**
85	**H4 11-27**	Ac-GK(Ac)GGAK(Ac)RHRK(Me_3)VLRDNIQ-Peg-Biot	**H4K12ac + K16ac + K20me3**
86	**H4 11-27**	Ac-GK(Ac)GGAK(Ac)RHRK(Me_2)VLRDNIQ-Peg-Biot	**H4K12ac + K16ac + K20me2**
89	**H3 1-20**	ARTK(Me_3)QTAR(Me_2s)K(Me_3)STGGKAPRKQL-K(Biot)-NH_2	**H3K4me3 + R8me2s + K9me3**
90	**H3 15-43**	Ac-APRK^{18}QLATK^{23}AARK^{27}SAPSTGGVK^{36}K^{37}PHRYGGK(Biot)-NH_2	**H3 (15-41)**
91	**H3 15-43**	Ac-APRK(Me_3)QLATKAARKSAPSTGGVKKPHRY-GG-K(Biot)-NH_2	**H3K18me3**
93	**H3 15-43**	Ac-APRKQLATKAARKSAPSTGGVK(Me_3)KPHRY-GG-K(Biot)-NH_2	**H3K36me3**
95	**H3 15-43**	Ac-APRK(Me_3)QLATKAARKSAPSTGGVK(Me_3)KPHRY-GG-K(Biot)-NH_2	**H3K18me3 + K36me3**
96	**H3 1-20**	ARTK(Me_3)QTAR(Me_2a)K(Me_3)STGGKAPRKQL-K(Biot)-NH_2	**H3K4me3 + R8me2a + K9me3**
99	**H4 11-27**	Ac-GKGGAKRHRKVLRDNIQ-Peg-Biot	**H4 (11-27)**
100	**H3 74-84**	Ac-IAQDFKTDLRF-**Peg**-K(Biot)-NH_2	**H3 (74-84) N-ac**
101	**H3 74-84**	Ac-IAQDFK(Me_3)TDLRF-**Peg**-K(Biot)-NH_2	**H3K79me3**
102	**H3 74-84**	Ac-IAQDFK(Me_2)TDLRF-**Peg**-K(Biot)-NH_2	**H3K79me2**

103	**H3 74-84**	**Ac-**IAQDF**K(Me)**TDLRF**-Peg-**K(Biot)-NH_2	**H3K79me1**
104	**H3 74-84**	IAQDF**K**TDLRF**-Peg-**K(Biot)-NH_2	**H3 (74-84)**
121	**H3 27-45**	**K**SAPSTGGV**K(Me$_2$)K**PHRYKPGT-GG-K(Biot)-NH_2	**H3K36me2**
123	**H3 27-45**	**K**SAPSTGGV**K(Ac)K**PHRYKPGT-GG-K(Biot)-NH_2	**H3K36ac**
124	**H3 27-45**	**K**SAPSTGGV**KK**PHRYKPGT-GG-K(Biot)-NH_2	**H3 (27-45)**
132	**H3 1-20**	ART**K(Me$_3$)**QTAR**K(Me$_3$)S**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3K4me3 + K9me3**
133	**H3 1-20**	ART**K**QTAR**K(Me$_2$)S**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3K9me2**
134	**H3 1-20**	ART**K**QTAR**K(Me)S**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3K9me1**
137	**H3 1-20**	ART**K**QTAR**KS**TGG**K**APR**K(Me$_3$)**QL-K(Biot)-NH_2	**H3K18me3**
138	**H3 1-20**	ART**K**QTAR**KS**TGG**K**APR**K(Me$_2$)**QL-K(Biot)-NH_2	**H3K18me2**
139	**H3 1-20**	ART**K**QTAR**KS**TGG**K**APR**K(Me)**QL-K(Biot)-NH_2	**H3K18me1**
144	**H3 1-20**	ART**K**QTAR**K(Ac)pS**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3K9ac + S10p**
145	**H3 1-20**	ART**K**QTAR**K(Me$_3$)pS**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3K9me3 + S10p**
146	**H3 1-20**	ART**K**QTAR**K(Me$_2$)pS**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3K9me2 + S10p**
147	**H3 1-20**	ART**K**QTAR**K(Me)pS**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3K9me1 + S10p**
148	**H3 1-20**	ART**K(Me$_3$)**QTAR**K(Ac)pS**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3K4me3 + K9ac + S10p**
149	**H3 1-22**	ART**K**QTARK**S**TGG**K**AP**R(Me$_2$a)K**QLAT-K(Biot)-NH_2	**H3R17me2a**
150	**H3 1-22**	ART**K**QTARK**S**TGG**K**AP**R(Me$_2$s)K**QLAT-K(Biot)-NH_2	**H3R17me2s**
151	**H3 1-22**	ART**K**QTARK**S**TGG**K**AP**R(Me)K**QLAT-K(Biot)-NH_2	**H3R17me1**
157	**H3 1-20**	A**R(Me$_2$s)**T**K(Me$_3$)**QTAR**K**STGG**K**APR**K**QL-K(Biot)-NH_2	**H3R2me2s + K4me3**
162	**H3 1-20**	A**RTK**Q**pT**AR**KS**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3T6p**
163	**H3 1-20**	A**RTK(Me$_3$)**Q**pT**AR**KS**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3K4me3 + T6p**
164	**H3 1-20**	A**RTK(Me$_2$)**Q**pT**AR**KS**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3K4me2 + T6p**
165	**H3 1-20**	A**RTK**Q**pT**AR**K(Ac)S**TGG**K(Ac)**APR**K(Ac)**QL-K(Biot)-NH_2	**H3T6p + K9ac + K14ac + K18ac**
166	**H3 1-20**	A**RTK(Me$_3$)**Q**pT**AR**K(Ac)S**TGG**K(Ac)**APR**K(Ac)**QL-K(Biot)-NH_2	**H3K4me3 + T6p + K9ac + K14ac + K18ac**
167	**H3 1-20**	A**RTK(Me$_2$)**Q**pT**AR**K(Ac)S**TGG**K(Ac)**APR**K(Ac)**QL-K(Biot)-NH_2	**H3K4me2 + T6p + K9ac + K14ac + K18ac**
174	**H3 1-20**	A**R(Me$_2$s)TK(Me$_3$)**QTAR**K(Ac)S**TGG**K(Ac)**APR**K(Ac)**QL-K(Biot)-NH_2	**H3R2me2s + K4me3 + K9ac + K14ac + K18ac**
178	**H3 1-20**	ART**K**QTA**R(Me)K(Me$_3$)S**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3R8me1 + K9me3**
179	**H3 1-20**	ART**K**QTA**R(Me)K(Me$_2$)S**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3R8me1 + K9me2**
180	**H3 1-20**	ART**K**QTA**R(Me$_2$a)K(Me$_3$)S**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3R8me2a + K9me3**
181	**H3 1-20**	ART**K**QTA**R(Me$_2$a)K(Me$_2$)S**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3R8me2a + K9me2**
182	**H3 1-20**	ART**K**QTA**R(Me$_2$a)K(Me)S**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3R8me2a + K9me1**
183	**H3 1-20**	ART**K**QTA**R(Me$_2$s)K(Me$_3$)S**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3R8me2s + K9me3**
184	**H3 1-20**	ART**K**QTA**R(Me$_2$s)K(Me$_2$)S**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3R8me2s + K9me2**
185	**H3 1-20**	ART**K**QTA**R(Me$_2$s)K(Me)S**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3R8me2s + K9me1**
186	**H3 1-20**	ART**K(Ac)**QTA**RK(Me$_2$)S**TGG**K(Ac)**APR**K(Ac)**QL-K(Biot)-NH_2	**H3K4ac + K9me2 + K14ac + K18ac**
187	**H3 1-20**	ART**K(Ac)**QTA**RK(Me)S**TGG**K(Ac)**APR**K(Ac)**QL-K(Biot)-NH_2	**H3K4ac + K9me1 + K14ac + K18ac**
195	**H3 15-34**	**Ac-**APR**K^{18}**QLAT**K^{23}**AAR**K(Me$_3$)^{27}**SAPSTGG-Peg-Biot	**H3K27me3**
196	**H3 15-34**	**Ac-**APR**K^{18}**QLAT**K^{23}**AAR**K(Me$_2$)^{27}**SAPSTGG-Peg-Biot	**H3K27me2**
197	**H3 15-34**	**Ac-**APR**K^{18}**QLAT**K^{23}**AAR**K(Me)^{27}**SAPSTGG--Peg-Biot	**H3K27me1**
198	**H3 15-34**	**Ac-**APR**K^{18}**QLAT**K^{23}**AA**R(Me$_2$a)K(Me$_3$)^{27}**SAPSTGG--Peg-Biot	**H3R26me2a + K27me3**
203	**H3 30-49**	**Ac-**PATGGVKKPHRYRPGTVALR-Peg-K(Biot)-NH_2	**H3 (30-49)**
209	**H3.3 15-34**	**Ac-**APRKQLATKAARKSAPSTGG-Peg-K(Biot)-NH_2	**H3.3 (15-34)**
210	**H3 30-49**	**Ac-**PSTGGVKKPHRYRPGTVALR-Peg-K(Biot)-NH_2	**H3.3 (30-49)**
211	**H3.3 75-94**	**Ac-**AQDFKTDLRFQSAAIGALQE-Peg-K(Biot)-NH_2	**H3.3 (75-94)**
213	**H3 120-135**	(Biot)Peg-MPKDIQLARRIRGERA-OH	**H3 (120-135)**
220	**H3 1-20**	ARTKQ**pT**A**RK(Me$_3$)S**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3T6p + K9me3**
221	**H3 1-20**	ARTKQ**pT**A**R(Me$_2$a)K(Me$_3$)S**TGG**K**APR**K**QL-K(Biot)-NH_2	**H3T6p + R8me2a + K9me3**

225	**H3 15-34**	**Ac-**APRK^{18}QLATK^{23}AARK**(Me$_3$)**^{27}**pS**APSTGG-Peg-Biot	**H3K27me3 + S28p**
226	**H3 15-34**	**Ac-**APRK^{18}QLATK^{23}AARK**(Me$_2$)**^{27}**pS**APSTGG-Peg-Biot	**H3S27me2 + S28p**
229	**H3 1-20**	ARTK**(Ac)**QTARK**(Me$_3$)**STGGKAPRKQL-K(Biot)-NH$_2$	**H3K4ac + K9me3**
237	**H3 1-32**	ARTKQTARK**(Me$_2$)**STGGKAPRKQLATKAAR**K**SAPAT-Peg-Biot	**H3K9me2 (1-32)**
300	**H2A 1-17**	**Ac-S**GRGKQGGKARAKAKTR-Peg-Biot	**H2A (1-17)**
301	**H2A 1-17**	**Ac-S**GRGK**(Ac)**QGGK**(Ac)**ARAK**(Ac)**AK**(Ac)**TR-Peg-Biot	**H2AK5ac + K9ac + K13ac + K15ac**
302	**H2A 1-17**	**Ac-S**GRGK**(Ac)**QGGKARAKAKTR-Peg-Biot	**H2AK5ac**
303	**H2A 1-17**	**Ac-pS**GRGK**(Ac)**QGGKARAKAKTR-Peg-Biot	**H2AS1p + K5ac**
304	**H2A 1-17**	**Ac-S**GR**(Me$_2$a)**GK**(Ac)**QGGKARAKAKTR-Peg-Biot	**H2AR3me2a + K5ac**
305	**H2A 1-17**	**Ac-pS**GR**(Me$_2$a)**GK**(Ac)**QGGKARAKAKTR-Peg-Biot	**H2AS1p + R3me2a + K5ac**
306	**H2A 1-17**	**Ac-S**GCitGK**(Ac)**QGGKARAKAKTR-Peg-Biot	**H2ACit3 + K5ac**
307	**H2A 1-17**	**Ac-pS**GCitGK**(Ac)**QGGKARAKAKTR-Peg-Biot	**H2AS1p + Cit3 + K5ac**
308	**H2A 1-17**	**Ac-pS**GRGK**(Ac)**QGGK**(Ac)**ARAK**(Ac)**AK**(Ac)**TR-Peg-Biot	**H2AS1p + K5ac + K9ac + K13ac + K15ac**
309	**H2A 1-17**	**S**GRGK**(Ac)**QGGK**(Ac)**ARAK**(Ac)**AK**(Ac)**TR-Peg-Biot	**H2AK5ac + K9ac + K13ac + K15ac (no N-ac)**
311	**H2A.X**	**Biot-Peg-**G^{132}KKATQA**S**^{139}QEY^{142}-OH	**H2AX (132-142)**
312	**H2A.X**	**Biot-Peg-**G^{132}KKATQA**pS**^{139}QEY^{142}-OH	**H2AX (S139p)**
351	**H4 1-23**	**S**GRGKGGKGLGKGGAKRHRKVLR**-Peg-Biot**	**H4 (1-23) (no N-ac)**
352	**H4 1-23**	**Ac-S**GRGKGGKGLGKGGAKRHRK**(Ac)**VLR**D-Peg-Biot**	**H4K20ac**
353	**H4 1-23**	**Ac-pS**GRGK**(Ac)**GGK**(Ac)**GLGK**(Ac)**GGAK**(Ac)**RHRKVLR**-Peg-Biot**	**H4S1p + K5ac + K8ac + K12ac + K16ac**
359	**H4 1-23**	**Ac-S**GRGK**(Ac)**GGK**(Ac)**GLG**K**GGA**K**RHR**K**VLR**-Peg-Biot**	**H4K5ac + K8ac**
360	**H4 1-23**	**Ac-S**GRGK**(Ac)**GG**K**GLG**K**GGAK**(Ac)**RHR**K**VLR**-Peg-Biot**	**H4K5ac + K16ac**
361	**H4 1-23**	**Ac-S**GRGK**(Ac)**GG**K**GLG**K**GGAKRHRK**(Ac)**VLR**-Peg-Biot**	**H4K5ac + K20ac**
362	**H4 1-23**	**Ac-S**GRG**K**GGK**(Ac)**GLGK**(Ac)**GGA**K**RHR**K**VLR**-Peg-Biot**	**H4K8ac + K12ac**
363	**H4 1-23**	**Ac-S**GRG**K**GGK**(Ac)**GLG**K**GGA**K**RHRK**(Ac)**VLR**-Peg-Biot**	**H4K8ac + K20ac**
364	**H4 1-23**	**Ac-S**GRG**K**GG**K**GLGK**(Ac)**GGAK**(Ac)**RHR**K**VLR**-Peg-Biot**	**H4K12ac + K16ac**
365	**H4 1-23**	**Ac-S**GRG**K**GG**K**GLGK**(Ac)**GGA**K**RHRK**(Ac)**VLR**-Peg-Biot**	**H4K12ac + K20ac**
366	**H4 1-23**	**Ac-S**GRG**K**GG**K**GLG**K**GGAK**(Ac)**RHRK**(Ac)**VLR**-Peg-Biot**	**H4K16ac + K20ac**
400	**H2B 1-24**	PEPA**K**SAPAP**KK**GS**KK**AVT**K**AQ**KK-Peg-Biot**	**H2B (1-24)**
401	**H2B 1-24**	PEPAK**(Me$_3$)**SAPAP**KK**GS**KK**AVT**K**AQ**KK-Peg-Biot**	**H2BK5me3**
402	**H2B 1-24**	PEPAK**(Me$_2$)**SAPAP**KK**GS**KK**AVT**K**AQ**KK-Peg-Biot**	**H2BK5me2**
403	**H2B 1-24**	PEPAK**(Me)**SAPAP**KK**GS**KK**AVT**K**AQ**KK-Peg-Biot**	**H2BK5me1**
587	**H2A10-25**	**Ac-**ARAKAKTRSSRAGLQF-**Peg-Biotin**	**H2A (10-25)**
625	**H2A.X 1-17**	Ac-SGRGKTGGKARAKAKSR**-Peg-Biotin**	**H2A.X (1-17)**
626	**H2A.X 1-17**	Ac-SGRGK**(Ac)**TGGKARAKAKSR**-Peg-Biotin**	**H2A.X K5ac**

Supplemental Table 2. Rothbart *et al*

Supplemental Table 2. Details of antibodies tested

Antibody	Company	Catalog #	Host and antibody type	Concentration	Results Location	tetra-ac/ mono-ac (± s.e.m.)
H3K9ac	Millipore	07-352	Rabbit polyclonal	1:1000	Fig. 1a Supp. Fig. 1	1.8 ± 0.3
H3K14ac	Millipore	07-353	Rabbit polyclonal	1:1000	Fig. 1a Supp. Fig. 1	1.1 ± 0.2
H4K5ac	Active Motif	39169	Rabbit polyclonal	1:1000	Fig. 1b-c Fig. 2c Supp. Fig. 2	4.0 ± 0.3
H4K5ac	Millipore	07-327	Rabbit polyclonal	1:1000	not shown	15.9 ± 4.1
H4K8ac	Active Motif	39172	Rabbit polyclonal	1:1000	Fig. 1b-c Supp. Fig. 2	21.9 ± 5.0
H4K12ac	Active Motif	39165	Rabbit polyclonal	1:1000	Fig. 1b-d Fig. 2b Supp. Fig. 2	18.6 ± 2.1
H4K12ac	Millipore	04-119	Rabbit monoclonal	1:1000	not shown	11.2 ± 2.5
H4K12ac	Millipore	07-595	Rabbit polyclonal	1:1000	not shown	2.8 ± 0.2
H4K16ac	Active Motif	39168	Rabbit polyclonal	1:2500	Fig. 1b-c Supp. Fig. 2	1.7 ± 0.3
H4 tetra-ac	Active Motif	39179	Rabbit polyclonal	1:2000	Fig. 1b-c Supp. Fig. 2	n/a

SUPPLEMENTAL FIGURE LEGENDS

Supplemental Figures 1-2. Expanded heat map of peptide array results for H3 acetyl antibodies (Supplemental Fig. 1) and H4 acetyl antibodies (Supplemental Fig. 2). For each array, the most intense series of peptide spots (12 individual spots per peptide) is assigned a value of 1 (blue), and all values are normalized to this peptide. Each interaction is presented as an averaged normalized intensity from at least two independent arrays ($r^2 > 0.9$).

Supplemental Figure 3. Quantitative mass spectrometry of the histone H4 tail (amino acids 3-17) across species. Error is represented as standard deviations from three biological replicates.