

Analysis of anti-H3K9me1 on the EpiTitan™ Histone Peptide Array

a-IgG	70	21	79	8	74	25	75	61	13	78	22	66	17	82	a-IgG
14	62	29	102	10	58	34	121	71	5	86	38	67	1	95	42
47	301	39	90	52	312	35	83	300	48	103	30	304	43	99	26
132	403	163	383	138	626	167	65	308	146	382	164	352	150	366	151
147	309	180	254	139	305	184	353	260	133	198	220	400	89	374	226
55	224	221	371	360	129	185	195	364	56	255	181	370	237	375	174
88	202	320	379	140	210	357	361	156	216	378	321	161	238	409	246
217	158	853	337	211	141	614	341	203	126	0	316	169	4	333	a-GST
0	0	317	330	0	0	342	615	0	0	338	854	0	a-His	334	410
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	a-IgG	0	0
3	69	20	80	7	73	24	76	60	12	77	23	243	16	81	19
15	63	28	101	11	59	33	311	72	6	85	37	68	2	93	41
45	302	40	91	51	123	36	84	124	50	104	32	303	44	100	27
125	402	162	789	137	625	166	350	307	145	381	165	351	149	790	157
148	310	179	253	144	306	183	120	264	134	197	187	401	96	373	225
54	259	229	372	359	362	186	196	200	57	241	182	242	53	376	178
87	171	265	380	136	209	323	363	155	215	365	322	160	219	408	258
218	159	412	336	213	142	587	340	208	135	662	315	170	18	332	319
0	0	318	331	0	0	343	661	0	0	339	586	0	0	335	411
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	68	19	81	6	72	23	77	59	11	76	24	63	15	80	20
16	243	27	100	12	60	32	104	73	7	84	36	69	3	91	40
44	303	41	93	50	124	37	85	123	51	311	33	302	45	101	28
96	401	157	790	134	264	165	381	306	144	350	166	310	148	789	162
149	351	178	376	145	307	182	241	625	137	196	186	402	125	372	229
53	242	225	373	57	200	187	197	362	359	120	183	259	54	253	179
18	170	258	408	135	208	322	365	142	213	363	323	159	218	380	265
219	160	411	335	215	155	586	339	209	136	661	343	171	87	331	318
0	0	319	332	0	0	315	662	0	0	340	587	0	0	336	412
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	67	a-IgG	82	5	71	22	78	58	10	75	25	62	14	79	21
17	66	26	99	13	61	30	103	74	8	83	35	70	a-IgG	90	39
43	304	42	95	48	300	38	86	312	52	121	34	301	47	102	29
89	400	151	366	133	260	164	382	305	139	65	167	309	147	383	163
150	352	174	375	146	308	181	255	626	138	195	185	403	132	371	221
237	370	226	374	56	364	220	198	129	360	353	184	224	55	254	180
4	169	246	409	126	203	321	378	141	211	361	357	158	217	379	320
238	161	410	334	216	156	854	338	210	140	615	342	202	88	330	317
a-His	0	a-GST	333	0	0	316	0	0	0	341	614	0	0	337	853
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
a-IgG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Data Specificity: EpiTitan™ Histone Peptide Array was used to analyze binding specificity of the H3K9me1 antibody at 1:5,000. Antibody signal appears in red, while the spotting tracer appears in green. The array image is overlaid with a frame containing numbers corresponding to the peptide number (“Peptide #”) in the raw data list below. Raw data “Signal” is an average of the antibody signal intensities of all 6 instances of the corresponding peptide on the array (2 instances of three peptide spots in a row).

Result: Anti-H3K9me1 recognizes all H3K9me1 peptides, except H3K9me1 + S10p. It also shows slight cross-reactivity with H4K8me1 and H3K23me1 peptides on the array.

Peptide #	Signal	STDEV	Peptide Name
134	34803	9259	H3K9me1
187	25859	4484	H3K4ac + K9me1 + K14ac + K18ac
182	23106	9431	H3R8me2a + K9me1
185	22924	10427	H3R8me2s + K9me1
382	11550	1941	H4K5ac + K8me1 + K12ac + K16ac
215	11289	141	H3K23me1 15-34
376	10845	10162	H4K5me1 + K8me1 + K12me1
374	7992	4608	H4K5ac + K8me1 + K12ac
372	7166	6579	H4K8me1
381	7123	652	H4K5me1 + K8ac + K12ac + K16ac
383	6354	5722	H4K5ac + K8ac + K12me1 + K16ac
375	6030	4274	H4K5me1 + K8ac + K12me1
373	5241	4970	H4K12me1
135	4805	2101	K3K4me1 + K18ac
84	4453	1621	H4K20me1
155	3534	617	H3K14me2
260	3441	52	H3K4me1 + K9me2
343	3371	3172	H4K12acK16acK20me3 (1-25)
60	3007	685	H3R2me2a + K4me2
136	2991	2003	H3T11p
203	2972	966	H3 30-49
371	2963	2337	H4K5me1
661	2935	1115	H3K4me3 (1-11)
61	2835	369	H3R2me2s + K4me2
340	2831	1215	H2B (108-125)
264	2825	946	H3K4me3 + K9me2
145	2817	91	H3K9me3 + S10p
307	2730	983	H2AS1p + Cit3 + K5ac
200	2721	414	H3R26me2a + K27me1
35	2717	1244	H3K4me1 + K9ac + K14ac + K18ac
147	2690	250	H3K9me1 + S10p
48	2666	126	H3R2me2a + K4ac + K9ac + K14ac + K18ac
209	2665	1305	H3.3 15-34
587	2615	1587	H2A (10-25)
662	2602	164	H3K4me3 (1-7)
197	2572	560	H3K27me1
5	2554	152	H3K4ac + K14ac

156	2548	995	H3K14me3
142	2538	962	H3R8me2s
71	2504	194	H4K8ac + K16ac
586	2489	1775	γH2A (10-25)
34	2483	1346	H3K4me1
13	2480	160	H3K4ac + K18ac
339	2459	277	H2BK120ub1 (Leu-Arg-Gly-Gly) (108-125)
305	2452	1027	H2AS1p + R3me2a + K5ac
186	2425	2668	H3K4ac + K9me2 + K14ac + K18ac
58	2421	46	H4 (1-23)
22	2408	579	H3K4me3 + K9ac + K14ac
23	2375	2603	H3K4me3 + K9ac + K18ac
363	2362	948	H4K8ac + K20ac
12	2343	922	H3K9ac + K18ac
208	2336	732	H3 105-124
74	2315	797	H4R3me2s
72	2297	436	H4K5ac + K8ac + K12ac
166	2253	1440	H3K4me3 + T6p + K9ac + K14ac + K18ac
104	2243	1274	H3 (74-84)
364	2227	1057	H4K12ac + K16ac
854	2212	1940	H3K23me2 (15-34)
79	2199	1949	H4R3me2a + K5ac + K8ac + K12ac + K16ac + K20ac
241	2183	799	H3K27ac
335	2165	1875	H3K36ac (21-44)
312	2162	63	H2AX (S139p)
300	2157	269	H2A (1-17)
144	2152	541	H3K9ac + S10p
265	2150	2210	H3K4A + K9me2 (1-15)
626	2136	1470	H2A.X K5ac
50	2132	952	H3R2me2a + K4me3 + K9ac + K14ac + K18ac
216	2129	534	H3K9-Nle (1-20)
625	2120	120	H2A.X (1-17)
165	2107	1018	H3T6p + K9ac + K14ac + K18ac
146	2092	319	H3K9me2 + S10p
77	2082	742	H4S1p + R3me2s
6	2043	740	H3K9ac + K14ac
120	2041	1825	H3K36me3 (27-45)
164	2035	439	H3K4me2 + T6p
196	2030	2133	H3K27me2
124	2028	841	H3 (27-45)
25	2009	1240	H3K4me3 + K9ac + K14ac + K18ac
323	1988	911	H2A.Z K4ac + K8ac + K12ac (1-19) N-ac
83	1971	919	H4K20me2

306	1964	1250	H2ACit3 + K5ac
303	1962	316	H2AS1p + K5ac
321	1913	977	H2A.Z (1-19) N-ac
30	1898	551	H3R2me2a + K4me3
341	1893	1435	H4 (1-25)
57	1877	338	H3T3p
123	1866	179	H3K36ac (27-45)
334	1864	918	H3K36me3 (21-44)
308	1859	262	H2AS1p + K5ac + K9ac + K13ac + K15ac
33	1859	1047	H3K4me2 + K9ac + K14ac + K18ac
32	1849	546	H3K4me2
615	1838	1361	cnp1 K2ac + K3ac + K18ac + K19ac (1-23)
24	1834	756	H3K4me3 + K14ac + K18ac
338	1824	537	H3K27acK36me3 (21-44)
26	1805	2099	H3T3p + K4me3 + K9ac + K14ac + K18ac
184	1766	1496	H3R8me2s + K9me2
332	1740	1649	H3K36me1 (21-44)
76	1727	715	H4S1p + R3me2a
365	1724	550	H4K12ac + K20ac
360	1702	78	H4K5ac + K16ac
78	1696	141	H4S1p + R3me1
75	1691	949	H4R3me1
357	1674	1444	H4S1p (1-23)
87	1673	15	H4K12ac + K16ac + K20me1
213	1666	1883	H3 120-135
350	1664	201	H4R3me2a + K5ac
10	1663	958	H3K18ac
183	1652	1611	H3R8me2s + K9me3
138	1648	770	H3K18me2
167	1645	299	H3K4me2 + T6p + K9ac + K14ac + K18ac
126	1630	898	H3.3K36me1
362	1625	1304	H4K8ac + K12ac
38	1616	226	H3K4me3 + S10p
137	1609	596	H3K18me3
133	1603	644	H3K9me2
65	1599	2260	H3K4N3
402	1595	410	H2BK5me2
351	1593	364	H4 (1-23) (no N-ac)
45	1587	378	H3K4me1 + K9ac + K18ac
129	1582	360	H3K9me2 + K27me2
614	1556	1377	cnp1 (1-23)
121	1553	1242	H3K36me2 (27-45)
302	1552	18	H2AK5ac

51	1544	827	H3R2me1 + K4me3
304	1539	79	H2AR3me2a + K5ac
401	1538	477	H2BK5me3
8	1535	1292	H3K4ac + K9ac + K14ac
36	1534	490	H3S10p
220	1519	641	H3T6p + K9me3
52	1519	192	H3R2me1 + K4me3 + K9ac + K14ac + K18ac
403	1495	876	H2BK5me1
311	1485	254	H2AX (132-142)
400	1477	946	H2B (1-24)
790	1472	1044	H3S31p + K36me3
211	1471	731	H3.3 75-94
11	1464	731	H3K14ac + K18ac
408	1442	383	H2BK12ac
80	1433	846	H4R3me2s + K5ac + K8ac + K12ac + K16ac + K20ac
198	1427	504	H3R26me2a + K27me3
789	1426	1114	H3K36me3
342	1419	925	H4K20me3 (1-23)
254	1415	1847	H3K56ac (52-61)
163	1407	1149	H3K4me3 + T6p
378	1406	658	H4K8ac + K12ac + K16ac
243	1401	534	H3S28p
179	1398	562	H3R8me1 + K9me2
37	1393	858	H3K4ac + K9ac + S10p + K14ac + K18ac
100	1390	1267	H3 (74-84) N-ac
181	1381	144	H3R8me2a + K9me2
90	1338	1017	H3 (15-41)
162	1335	695	H3T6p
91	1319	1152	H3K18me3
336	1303	965	H3K27acK36me1 (21-44)
81	1300	1294	H4R3me1 + K5ac + K8ac + K12ac + K16ac + K20ac
56	1294	632	H3Cit2 + K4ac + K9ac + K14ac + K18ac
73	1293	500	H4R3me2a
259	1287	518	H3K4me2 + K9me2
55	1285	619	H3Cit2 + K4me3 + K9ac + K14ac + K18ac
333	1275	1482	H3K36me2 (21-44)
352	1243	1098	H4K20ac
218	1243	970	H3K18-Nle (11-26)
125	1236	428	H3T3p
85	1209	935	H4K12ac + K16ac + K20me3
366	1206	816	H4K16ac + K20ac
44	1195	699	H3K4me2 + K9ac + K18ac
102	1187	1427	H3K79me2

158	1187	1401	H3K18ac (1-25)
237	1173	384	H3K9me2 (1-32)
93	1158	630	H3K36me3
151	1150	765	H3R17me1
359	1148	1159	H4K5ac + K8ac
67	1138	658	H4K8ac
195	1138	1609	H3K27me3
141	1129	897	H3R8me2a
157	1122	651	H3R2me2s + K4me3
88	1117	271	H4K12ac + K16ac
353	1113	880	H4S1p + K5ac + K8ac + K12ac + K16ac
95	1109	973	H3K18me3 + K36me3
331	1108	742	H3 (21-44)
66	1105	398	H4K5ac
7	1091	138	H3K4ac + K9ac
361	1089	1321	H4K5ac + K20ac
370	1088	482	H4K12ac + KQ5,8,16,20
59	1086	591	H4K5ac + K8ac + K12ac + K16ac
20	1084	765	H3K4me3 + K14ac
255	1082	123	H3K56me3 (52-61)
160	1065	347	H3R17me2a + K18ac (1-25)
149	1054	266	H3R17me2a
62	1042	519	H3R2me1 + K4me2
320	1041	925	H2A.Z (1-19)
140	1035	894	H3R8me1
322	1032	7	H2A.Z K4ac + K8ac + K12ac (1-19)
219	1019	331	H3K23-N1e (15-31)
69	1003	314	H4K16ac
380	999	468	H4K5ac + K8ac + K16ac
337	993	785	H3K27acK36me2 (21-44)
47	983	466	H3R2me2a
4	981	103	H3K4ac
			H3R2me2a + K4me3 + K9ac + S10p + K14ac +
41	977	274	K18ac
180	975	364	H3R8me2a + K9me3
17	951	375	H3K4ac + K9ac + K14ac + K18ac
70	946	326	H4K5ac + K12ac
310	946	22	H2AS1p + K5ac + K9ac + K13ac + K15ac (no N-ac)
253	941	755	H3 (52-61)
63	935	88	H3Cit2 + K4me2
68	931	150	H4K12ac
101	928	1121	H3K79me3
54	919	46	H3Cit2 + K4me3

159	911	345	H3R17me2a (1-25)
170	909	277	H3K18ac + K23ac + K27ac + S28p
96	885	196	H3K4me3 + R8me2a + K9me3
103	874	547	H3K79me1
412	868	226	H2BK12ac + K15ac + K16ac + K20ac
53	865	53	H3Cit2
202	862	288	H3 15-34
15	847	189	H3K4ac + K14ac + K18ac
225	845	364	H3K27me3 + S28p
2	838	502	H3K14ac
27	836	76	H3T3p + K4me3
229	835	87	H3K4ac + K9me3
242	832	443	H3K27ac + S28p
29	832	1105	H3R2me2a + T3p + K4me3
221	831	652	H3T6p + R8me2a + K9me3
150	829	216	H3R17me2s
43	824	87	H3K4ac + K9me3 + K14ac + K18ac
132	819	377	H3K4me3 + K9me3
330	806	766	H3Cit8 (1-21)
379	799	672	H4K5ac + K12ac + K16ac
21	799	644	H3K4me3 + K18ac
14	789	488	H3K9ac + K14ac + K18ac
99	785	114	H4 (11-27)
217	783	102	H3K14-Nle (1-20)
210	783	269	H3.3 30-49
19	778	391	H3K4me3 + K9ac
174	762	147	H3R2me2s + K4me3 + K9ac + K14ac + K18ac
139	746	429	H3K18me1
309	736	323	H2AK5ac + K9ac + K13ac + K15ac (no N-ac)
18	736	118	H3K4me3
171	715	82	H3K23ac
3	679	40	H3K9ac
86	672	151	H4K12ac + K16ac + K20me2
89	664	90	H3K4me3 + R8me2s + K9me3
148	656	202	H3K4me3 + K9ac + S10p
39	644	613	H3K4me3 + K9ac + S10p + K14ac + K18ac
258	642	623	H3K9me2 (1-15)
301	640	32	H2AK5ac + K9ac + K13ac + K15ac
853	629	400	H3K23me3 (15-34)
40	602	134	H3R2me2a + K4me3 + S10p
226	590	47	H3K27me2 + S28p
411	570	393	H2BK20ac
28	552	19	H3R2me2a + T3p + K4me3 + K9ac + K14ac + K18ac

178	551	165	H3R8me1 + K9me3
1	539	208	H3 (1-20)
16	493	99	H3K4ac + K9ac + K18ac
224	487	387	H3R26me2a
42	477	359	H3K9me3