

## Analysis of anti-H3K27me1 on the *EpiTitan<sup>TM</sup>* 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	36	67	1	95	42
47	301	39	90	52	312	85	83	300	48	103	30	304	43	99	26
132	403	163	383	138	626	167	65	308	145	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	156	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	50	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	176
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	652	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	59	124	37	85	123	51	311	35	302	45	101	28
96	401	157	790	134	264	165	381	306	144	350	166	310	148	789	162
149	351	176	376	145	307	182	241	625	137	196	186	402	125	372	229
53	242	226	373	57	200	187	197	362	359	120	183	259	54	253	179
18	170	256	408	135	208	322	365	142	213	363	323	159	218	380	265
219	160	411	335	215	155	586	339	209	136	651	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	145	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	653
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<sup>TM</sup> Histone Peptide Array was used to analyze binding specificity of the H3K27me1 antibody (catalog number A2361) at 1:5,000. Antibody signal appears in red, while the spotting tracer appears in green. The array image is overlayed 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-H3K27me1 recognizes all H3K27me1 peptides, and shows no cross-reactivity with any other peptides on the array.

Peptide #	Signal	STDEV	Peptide Name
197	40467	1483	K27me1
200	37998	6335	H3R26me2a + K27me1
129	9216	1465	H3K9me2 + K27me2
187	6315	768	H3K4ac + K9me1 + K14ac + K18ac
373	6268	4172	H4K12me1
196	5507	16	H3K27me2
134	4012	2099	H3K9me1
376	3072	2160	H4K5me1 + K8me1 + K12me1
343	2909	831	H4K12acK16acK20me3 (1-25)
381	2869	735	H4K5me1 + K8ac + K12ac + K16ac
215	2794	1184	H3K23me1 15-34
403	2721	87	H2BK5me1
375	2697	1195	H4K5me1 + K8ac + K12me1
342	2584	841	H4K20me3 (1-23)
195	2574	785	H3K27me3
139	2298	184	H3K18me1
374	2276	1040	H4K5ac + K8me1 + K12ac
334	2237	1620	H3K36me3 (21-44)
303	2235	540	H2AS1p + K5ac
217	2214	2137	H3K14-Nle (1-20)
66	2172	1818	H4K5ac
170	2059	1274	H3K18ac + K23ac + K27ac + S28p
383	2055	386	H4K5ac + K8ac + K12me1 + K16ac
209	1979	45	H3.3 15-34
67	1943	1129	H4K8ac
237	1931	1687	H3K9me2 (1-32)
242	1923	1490	H3K27ac + S28p
226	1912	1871	H3K27me2 + S28p
15	1903	1213	H3K4ac + K14ac + K18ac
44	1898	1688	H3K4me2 + K9ac + K18ac
382	1876	137	H4K5ac + K8me1 + K12ac + K16ac
198	1873	644	H3R26me2a + K27me3
352	1857	1036	H4K20ac
135	1850	686	K3K4me1 + K18ac
126	1845	814	H3.3K36me1
42	1843	249	H3K9me3

150	1832	1617	H3R17me2s
587	1814	560	H2A (10-25)
182	1790	227	H3R8me2a + K9me1
91	1772	993	H3K18me3
120	1753	464	H3K36me3 (27-45)
65	1727	171	H3K4N3
370	1710	1258	H4K12ac + KQ5,8,16,20
335	1701	886	H3K36ac (21-44)
330	1700	529	H3Cit8 (1-21)
336	1687	1255	H3K27acK36me1 (21-44)
306	1683	16	H2ACit3 + K5ac
43	1665	1208	H3K4ac + K9me3 + K14ac + K18ac
359	1649	345	H4K5ac + K8ac
301	1646	1164	H2AK5ac + K9ac + K13ac + K15ac
213	1644	289	H3 120-135
95	1635	1326	H3K18me3 + K36me3
68	1562	64	H4K12ac
149	1558	1449	H3R17me2a
790	1549	344	H3S31p + K36me3
253	1548	111	H3 (52-61)
140	1545	248	H3R8me1
55	1544	622	H3Cit2 + K4me3 + K9ac + K14ac + K18ac
88	1540	335	H4K12ac + K16ac
229	1538	826	H3K4ac + K9me3
362	1536	235	H4K8ac + K12ac
144	1530	287	H3K9ac + S10p
16	1529	1592	H3K4ac + K9ac + K18ac
56	1523	698	H3Cit2 + K4ac + K9ac + K14ac + K18ac
305	1521	308	H2AS1p + R3me2a + K5ac
380	1504	420	H4K5ac + K8ac + K16ac
372	1503	1	H4K8me1
366	1492	1112	H4K16ac + K20ac
221	1487	130	H3T6p + R8me2a + K9me3
225	1479	47	H3K27me3 + S28p
80	1478	228	H4R3me2s + K5ac + K8ac + K12ac + K16ac + K20ac
789	1474	1009	H3K36me3
185	1464	396	H3R8me2s + K9me1
371	1449	320	H4K5me1
338	1443	504	H3K27acK36me3 (21-44)
243	1432	785	H3S28p
30	1432	488	H3R2me2a + K4me3
136	1429	391	H3T11p
53	1428	969	H3Cit2

216	1419	455	H3K9-Nle (1-20)
219	1411	983	H3K23-Nle (15-31)
661	1408	1088	H3K4me3 (1-11)
260	1408	520	H3K4me1 + K9me2
160	1406	672	H3R17me2a + K18ac (1-25)
125	1405	295	H3T3p
364	1395	745	H4K12ac + K16ac
137	1392	396	H3K18me3
408	1379	409	H2BK12ac
141	1378	617	H3R8me2a
96	1365	752	H3K4me3 + R8me2a + K9me3
183	1354	196	H3R8me2s + K9me3
12	1352	950	H3K9ac + K18ac
51	1349	654	H3R2me1 + K4me3
180	1348	627	H3R8me2a + K9me3
132	1332	591	H3K4me3 + K9me3
36	1329	164	H3S10p
174	1328	1221	H3R2me2s + K4me3 + K9ac + K14ac + K18ac
142	1325	276	H3R8me2s
351	1322	860	H4 (1-23) (no N-ac)
40	1322	128	H3R2me2a + K4me3 + S10p
333	1321	948	H3K36me2 (21-44)
57	1320	383	H3T3p
401	1319	584	H2BK5me3
586	1317	369	yH2A (10-25)
353	1297	420	H4S1p + K5ac + K8ac + K12ac + K16ac
179	1293	73	H3R8me1 + K9me2
73	1292	160	H4R3me2a
18	1286	748	H3K4me3
350	1283	308	H4R3me2a + K5ac
162	1280	367	H3T6p
615	1278	424	cnp1 K2ac + K3ac + K18ac + K19ac (1-23) H3R2me2a + K4me3 + K9ac + S10p + K14ac +
41	1271	376	K18ac
151	1271	1133	H3R17me1
224	1263	229	H3R26me2a
379	1261	844	H4K5ac + K12ac + K16ac
360	1259	775	H4K5ac + K16ac
79	1248	462	H4R3me2a + K5ac + K8ac + K12ac + K16ac + K20ac
45	1244	876	H3K4me1 + K9ac + K18ac
157	1243	411	H3R2me2s + K4me3
210	1240	360	H3.3 30-49
164	1239	53	H3K4me2 + T6p

22	1238	378	H3K4me3 + K9ac + K14ac
133	1238	435	H3K9me2
310	1231	160	H2AS1p + K5ac + K9ac + K13ac + K15ac (no N-ac)
340	1231	283	H2B (108-125)
54	1224	579	H3Cit2 + K4me3
13	1223	209	H3K4ac + K18ac
308	1222	364	H2AS1p + K5ac + K9ac + K13ac + K15ac
26	1217	97	H3T3p + K4me3 + K9ac + K14ac + K18ac
341	1216	694	H4 (1-25)
184	1215	478	H3R8me2s + K9me2
311	1210	598	H2AX (132-142)
402	1210	447	H2BK5me2
158	1196	45	H3K18ac (1-25)
103	1188	152	H3K79me1
2	1182	1426	H3K14ac
47	1178	484	H3R2me2a
3	1177	1179	H3K9ac
78	1169	136	H4S1p + R3me1
854	1169	218	H3K23me2 (15-34)
165	1167	247	H3T6p + K9ac + K14ac + K18ac
259	1164	374	H3K4me2 + K9me2
6	1163	145	H3K9ac + K14ac
155	1155	1115	H3K14me2
625	1144	277	H2A.X (1-17)
89	1142	297	H3K4me3 + R8me2s + K9me3
23	1141	645	H3K4me3 + K9ac + K18ac
37	1137	497	H3K4ac + K9ac + S10p + K14ac + K18ac
147	1129	511	H3K9me1 + S10p
71	1128	550	H4K8ac + K16ac
5	1127	451	H3K4ac + K14ac
87	1116	683	H4K12ac + K16ac + K20me1
61	1112	852	H3R2me2s + K4me2
312	1104	315	H2AX (S139p)
156	1098	298	H3K14me3
365	1098	952	H4K12ac + K20ac
662	1095	863	H3K4me3 (1-7)
614	1090	224	cnp1 (1-23)
84	1088	222	H4K20me1
220	1087	1010	H3T6p + K9me3
99	1085	40	H4 (11-27)
339	1084	585	H2BK120ub1 (Leu-Arg-Gly-Gly) (108-125)
76	1077	149	H4S1p + R3me2a
70	1071	26	H4K5ac + K12ac

74	1058	149	H4R3me2s
357	1057	669	H4S1p (1-23)
52	1056	292	H3R2me1 + K4me3 + K9ac + K14ac + K18ac
24	1051	13	H3K4me3 + K14ac + K18ac
1	1045	417	H3 (1-20)
166	1042	22	H3K4me3 + T6p + K9ac + K14ac + K18ac
146	1037	414	H3K9me2 + S10p
32	1037	254	H3K4me2
361	1035	63	H4K5ac + K20ac
300	1016	200	H2A (1-17)
378	1012	114	H4K8ac + K12ac + K16ac
331	1001	552	H3 (21-44)
75	999	162	H4R3me1
48	997	215	H3R2me2a + K4ac + K9ac + K14ac + K18ac
138	994	209	H3K18me2
337	983	21	H3K27acK36me2 (21-44)
63	979	446	H3Cit2 + K4me2
145	975	479	H3K9me3 + S10p
178	974	214	H3R8me1 + K9me3
82	972	447	H4K20me3
241	971	771	H3K27ac
38	970	353	H3K4me3 + S10p
211	967	226	H3.3 75-94
33	962	464	H3K4me2 + K9ac + K14ac + K18ac
85	957	716	H4K12ac + K16ac + K20me3
104	955	767	H3 (74-84)
203	949	855	H3 30-49
77	942	644	H4S1p + R3me2s
25	934	113	H3K4me3 + K9ac + K14ac + K18ac
10	934	417	H3K18ac
258	931	85	H3K9me2 (1-15)
20	922	5	H3K4me3 + K14ac
202	920	70	H3 15-34
218	913	14	H3K18-Nle (11-26)
304	911	384	H2AR3me2a + K5ac
186	908	238	H3K4ac + K9me2 + K14ac + K18ac
265	902	126	H3K4A + K9me2 (1-15)
100	893	418	H3 (74-84) N-ac
322	891	496	H2A.Z K4ac + K8ac + K12ac (1-19)
853	890	384	H3K23me3 (15-34)
83	883	113	H4K20me2
363	874	783	H4K8ac + K20ac
400	863	221	H2B (1-24)

29	863	805	H3R2me2a + T3p + K4me3
208	860	599	H3 105-124
93	858	379	H3K36me3
72	851	627	H4K5ac + K8ac + K12ac
62	841	16	H3R2me1 + K4me2
320	836	487	H2A.Z (1-19)
626	835	681	H2A.X K5ac
123	831	38	H3K36ac (27-45)
309	829	1075	H2AK5ac + K9ac + K13ac + K15ac (no N-ac)
255	827	58	H3K56me3 (52-61)
412	823	423	H2BK12ac + K15ac + K16ac + K20ac
86	822	167	H4K12ac + K16ac + K20me2
121	819	97	H3K36me2 (27-45)
17	813	354	H3K4ac + K9ac + K14ac + K18ac
254	807	15	H3K56ac (52-61)
90	803	62	H3 (15-41)
323	799	89	H2A.Z K4ac + K8ac + K12ac (1-19) N-ac
124	761	106	H3 (27-45)
102	744	327	H3K79me2
60	742	154	H3R2me2a + K4me2
7	727	378	H3K4ac + K9ac
11	726	272	H3K14ac + K18ac
58	710	155	H4 (1-23)
167	707	220	H3K4me2 + T6p + K9ac + K14ac + K18ac
307	704	110	H2AS1p + Cit3 + K5ac
35	695	684	H3K4me1 + K9ac + K14ac + K18ac
411	687	326	H2BK20ac
19	686	217	H3K4me3 + K9ac
302	674	280	H2AK5ac
8	672	22	H3K4ac + K9ac + K14ac
81	656	52	H4R3me1 + K5ac + K8ac + K12ac + K16ac + K20ac
69	653	138	H4K16ac
14	634	469	H3K9ac + K14ac + K18ac
163	631	250	H3K4me3 + T6p
264	609	583	H3K4me3 + K9me2
59	604	313	H4K5ac + K8ac + K12ac + K16ac
27	600	134	H3T3p + K4me3
159	597	836	H3R17me2a (1-25)
50	585	605	H3R2me2a + K4me3 + K9ac + K14ac + K18ac
34	567	72	H3K4me1
21	564	614	H3K4me3 + K18ac
101	458	135	H3K79me3
39	430	12	H3K4me3 + K9ac + S10p + K14ac + K18ac

171        370        459        H3K23ac