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Supplementary information

Regulatory genomic circuitry of human disease loci by integrative epigenomics

In the format provided by the authors and unedited

	Group	BSSID	Extended Info		Group	BSSID	Extended Info		Group	BSSID	Extended Info
1	Adipose	BSS00038	ADIPOCYTE	288	Digestive	BSS01654	STOMACH	575	Kidney	BSS01533	RENAL PELVIS
2	Adipose	BSS00043	ADIPOSE TISSUE	289	Digestive	BSS01651	STOMACH	576	Kidney	BSS01497	RENAL PELVIS
3	Adipose	BSS01671	ADIPOSE TISSUE	290	Digestive	BSS01639	STOMACH	577	Kidney	BSS01498	RENAL PELVIS
4	Adipose	BSS01665	ADIPOSE TISSUE	291	Digestive	BSS01284	STOMACH MUCOSA	578	Kidney	BSS01153	RENAL PELVIS
5	Adipose	BSS01666	ADIPOSE TISSUE	292	Digestive	BSS01848	TRANSVERSE COLON	579	Kidney	BSS01534	RENAL PELVIS
6	Adipose	BSS01668	ADIPOSE TISSUE	293	Digestive	BSS01851	TRANSVERSE COLON	580	Kidney	BSS01499	RENAL PELVIS
7	Adipose	BSS01669	ADIPOSE TISSUE	294	Digestive	BSS01849	TRANSVERSE COLON	581	Liver	BSS00553	HEPATIC STELLATE CELL
8	Adipose	BSS01667	ADIPOSE TISSUE	295	Digestive	BSS01850	TRANSVERSE COLON	582	Liver	BSS00554	HEPATOCYTE
9	Adipose	BSS01394	OMENTAL FAT PAD	296	Endocrine	BSS00282	ENDOCRINE PANCREAS	583	Liver	BSS00511	LIVER
10	Adipose	BSS01393	OMENTAL FAT PAD	297	Endocrine	BSS00283	ENDOCRINE PANCREAS	584	Liver	BSS01164	LIVER
11	Blood & T-cell	BSS00188	CD4 T CELL	298	Endocrine	BSS00284	ENDOCRINE PANCREAS	585	Liver	BSS01170	LIVER
12	Blood & T-cell	BSS00185	CD4 T CELL	299	Endocrine	BSS00281	ENDOCRINE PANCREAS	586	Liver	BSS01169	LIVER
13	Blood & T-cell	BSS00189	CD4 T CELL	300	Endocrine	BSS01403	OVARY	587	Liver	BSS01159	LIVER
14	Blood & T-cell	BSS00190	CD4 T CELL	301	Endocrine	BSS01401	OVARY	588	Liver	BSS01168	LIVER
15	Blood & T-cell	BSS00183	CD4 T CELL	302	Endocrine	BSS01402	OVARY	589	Liver	BSS01519	LIVER
16	Blood & T-cell	BSS00186	CD4 T CELL	303	Endocrine	BSS01399	OVARY	590	Liver	BSS01158	LIVER
17	Blood & T-cell	BSS00191	CD4 T CELL	304	Endocrine	BSS01719	TESTIS	591	Lung	BSS01195	LUNG
18	Blood & T-cell	BSS00192	CD4 T CELL	305	Endocrine	BSS01718	TESTIS	592	Lung	BSS01142	LUNG
19	Blood & T-cell	BSS00274	CD4 T CELL	306	Endocrine	BSS01715	TESTIS	593	Lung	BSS01525	LUNG
20	Blood & T-cell	BSS00195	CD8 T CELL	307	Endocrine	BSS00052	ADRENAL GLAND	594	Lung	BSS01143	LUNG
21	Blood & T-cell	BSS00196	CD8 T CELL	308	Endocrine	BSS00050	ADRENAL GLAND	595	Lung	BSS01526	LUNG
22	Blood & T-cell	BSS00198	CD8 T CELL	309	Endocrine	BSS00051	ADRENAL GLAND	596	Lung	BSS01137	LUNG
23	Blood & T-cell	BSS00200	CD8 T CELL	310	Endocrine	BSS00059	ADRENAL GLAND	597	Lung	BSS01520	LUNG
24	Blood & T-cell	BSS00193	CD8 T CELL	311	Endocrine	BSS00057	ADRENAL GLAND	598	Lung	BSS01138	LUNG
25	Blood & T-cell	BSS00194	CD8 T CELL	312	Endocrine	BSS00058	ADRENAL GLAND	599	Lung	BSS01521	LUNG
26	Blood & T-cell	BSS00197	CD8 T CELL	313	Endocrine	BSS00045	ADRENAL GLAND	600	Lung	BSS01139	LUNG
27	Blood & T-cell	BSS01420	MONONUCLEAR CELL	314	Endocrine	BSS00046	ADRENAL GLAND	601	Lung	BSS01192	LUNG
28	Blood & T-cell	BSS01421	MONONUCLEAR CELL	315	Endocrine	BSS00047	ADRENAL GLAND	602	Lung	BSS01522	LUNG
29	Blood & T-cell	BSS01279	MONONUCLEAR CELL	316	Endocrine	BSS00048	ADRENAL GLAND	603	Lung	BSS01140	LUNG
30	Blood & T-cell	BSS01419	MONONUCLEAR CELL	317	Endocrine	BSS00054	ADRENAL GLAND	604	Lung	BSS01523	LUNG
31	Blood & T-cell	BSS01423	MONONUCLEAR CELL	318	Endocrine	BSS00060	ADRENAL GLAND	605	Lung	BSS01141	LUNG
32	Blood & T-cell	BSS01424	MONONUCLEAR CELL	319	Endocrine	BSS00055	ADRENAL GLAND	606	Lung	BSS01524	LUNG
33	Blood & T-cell	BSS01347	NAIVE T CELL	320	Endocrine	BSS00056	ADRENAL GLAND	607	Lung	BSS01205	LUNG
34	Blood & T-cell	BSS01348	NAIVE T CELL	321	Endocrine	BSS01831	THYROID GLAND	608	Lung	BSS01147	LUNG
35	Blood & T-cell	BSS01346	NAIVE T CELL	322	Endocrine	BSS01834	THYROID GLAND	609	Lung	BSS01529	LUNG
36	Blood & T-cell	BSS01688	T CELL	323	Endocrine	BSS01832	THYROID GLAND	610	Lung	BSS01148	LUNG
37	Blood & T-cell	BSS01687	T CELL	324	Endocrine	BSS01835	THYROID GLAND	611	Lung	BSS01149	LUNG
38	Blood & T-cell	BSS01689	T CELL	325	Endothelial	BSS00143	BRAIN MICROVASCULAR ENDOTHELIAL CELL	612	Lung	BSS01530	LUNG
39	Blood & T-cell	BSS01684	T CELL	326	Endothelial	BSS00387	GLOMERULUS ENDOTHELIAL CELL	613	Lung	BSS01202	LUNG
40	Blood & T-cell	BSS01691	T1 CELL	327	Endothelial	BSS01077	KIDNEY CAPILLARY ENDOTHELIAL CELL	614	Lung	BSS01144	LUNG
41	Blood & T-cell	BSS01692	T1 CELL	328	Endothelial	BSS01206	LUNG MICROVASCULAR ENDOTHELIAL CELL	615	Lung	BSS01527	LUNG
42	Blood & T-cell	BSS01690	T1 CELL	329	Endothelial	BSS01465	PULMONARY ARTERY ENDOTHELIAL CELL	616	Lung	BSS01203	LUNG
43	Blood & T-cell	BSS01693	T17 CELL	330	Endothelial	BSS00298	UMBILICAL VEIN ENDOTHELIAL CELL	617	Lung	BSS01145	LUNG
44	Blood & T-cell	BSS01694	T17 CELL	331	Endothelial	BSS00296	UMBILICAL VEIN ENDOTHELIAL CELL	618	Lung	BSS01146	LUNG
45	Blood & T-cell	BSS01695	T17 CELL	332	Endothelial	BSS00258	DERMIS BLOOD VESSEL ENDOTHELIAL CELL	619	Lung	BSS01528	LUNG
46	Blood & T-cell	BSS01697	T2 CELL	333	Endothelial	BSS00260	DERMIS BLOOD VESSEL ENDOTHELIAL CELL	620	Lung	BSS01204	LUNG
47	Blood & T-cell	BSS01698	T2 CELL	334	Endothelial	BSS00262	DERMIS LYMPHATIC VESSEL ENDOTHELIAL CELL	621	Lung	BSS01189	LUNG
48	Blood & T-cell	BSS01696	T2 CELL	335	Endothelial	BSS00264	DERMIS LYMPHATIC VESSEL ENDOTHELIAL CELL	622	Lung	BSS01188	LUNG
49	Blood & T-cell	BSS01478	TREG CELL	336	Epithelial	BSS00704	BONE MARROW EPITHELIAL CELL	623	Lung	BSS01187	LUNG
50	Blood & T-cell	BSS01479	TREG CELL	337	Epithelial	BSS00218	CHOROID PLEXUS EPITHELIAL CELL	624	Lung	BSS01198	LUNG
51	Blood & T-cell	BSS01480	TREG CELL	338	Epithelial	BSS00223	COLON EPITHELIAL CELL	625	Lung	BSS01186	LUNG
52	Bone	BSS00084	BONE ARM	339	Epithelial	BSS00307	ESOPHAGUS EPITHELIAL CELL	626	Lung	BSS01869	LUNG
53	Bone	BSS00330	BONE FEMUR	340	Epithelial	BSS00743	IRIS PIGMENT EPITHELIAL CELL	627	Lung	BSS01196	LUNG
54	Bone	BSS01154	BONE LEG	341	Epithelial	BSS01385	NON-PIGMENTED CILIARY EPITHELIAL CELL	628	Lung	BSS01197	LUNG
55	Bone	BSS00705	BONE MARROW STROMA	342	Epithelial	BSS01092	GLOMERULUS EPITHELIAL CELL	629	Lung	BSS01871	LUNG
56	Bone	BSS01397	OSTEOBLAST	343	Epithelial	BSS00389	GLOMERULUS VISCERAL EPITHELIAL CELL	630	Lung	BSS01201	LUNG
57	Brain	BSS00071	AMMONS HORN	344	Epithelial	BSS01080	KIDNEY EPITHELIAL CELL	631	Lung	BSS01190	LUNG
58	Brain	BSS00077	ANGULAR GYRUS	345	Epithelial	BSS00310	PROXIMAL TUBULE EPITHELIAL CELL	632	Lung	BSS01870	LUNG
59	Brain	BSS00078	ANGULAR GYRUS	346	Epithelial	BSS00701	PROXIMAL TUBULE EPITHELIAL CELL	633	Lung	BSS01193	LUNG
60	Brain	BSS00089	ASTROCYTE	347	Epithelial	BSS01491	RENAL CORTICAL EPITHELIAL CELL	634	Lymphoblastoid	BSS00403	LYMPHOBLASTOID CELL LINE
61	Brain	BSS00090	ASTROCYTE CEREBELLUM	348	Epithelial	BSS01505	RETINAL EPITHELIAL CELL	635	Lymphoblastoid	BSS00462	LYMPHOBLASTOID CELL LINE
62	Brain	BSS00091	ASTROCYTE HIPPOCAMPUS	349	Epithelial	BSS01103	TUBULE CELL	636	Lymphoblastoid	BSS00456	LYMPHOBLASTOID CELL LINE
63	Brain	BSS00092	ASTROCYTE SPINAL CORD	350	Epithelial	BSS01102	TUBULE CELL	637	Lymphoblastoid	BSS00457	LYMPHOBLASTOID CELL LINE
64	Brain	BSS00135	BRAIN	351	Epithelial	BSS00153	BRONCHIAL EPITHELIAL CELL	638	Lymphoblastoid	BSS00438	LYMPHOBLASTOID CELL LINE
65	Brain	BSS00136	BRAIN	352	Epithelial	BSS00150	BRONCHIAL EPITHELIAL CELL	639	Lymphoblastoid	BSS00473	LYMPHOBLASTOID CELL LINE
66	Brain	BSS00129	BRAIN	353	Epithelial	BSS00703	PANCREATIC DUCT EPITHELIAL CELL	640	Lymphoblastoid	BSS00471	LYMPHOBLASTOID CELL LINE
67	Brain	BSS00130	BRAIN	354	Epithelial	BSS00075	AMNION EPITHELIAL CELL	641	Lymphoblastoid	BSS00474	LYMPHOBLASTOID CELL LINE
68	Brain	BSS00131	BRAIN	355	Epithelial	BSS00308	PROSTATE EPITHELIAL CELL	642	Lymphoblastoid	BSS00404	LYMPHOBLASTOID CELL LINE
69	Brain	BSS00133	BRAIN	356	Epithelial	BSS00309	PROSTATE EPITHELIAL CELL	643	Lymphoblastoid	BSS00405	LYMPHOBLASTOID CELL LINE
70	Brain	BSS00138	BRAIN	357	Epithelial	BSS01539	PROSTATE EPITHELIAL CELL	644	Lymphoblastoid	BSS00472	LYMPHOBLASTOID CELL LINE
71	Brain	BSS00139	BRAIN	358	Epithelial	BSS01538	PROSTATE EPITHELIAL CELL	645	Lymphoblastoid	BSS00428	LYMPHOBLASTOID CELL LINE
72	Brain	BSS00140	BRAIN	359	Epithelial	BSS01217	BREAST EPITHELIAL CELL	646	Lymphoblastoid	BSS00454	LYMPHOBLASTOID CELL LINE
73	Brain	BSS00142	BRAIN	360	Epithelial	BSS01224	BREAST EPITHELIAL CELL	647	Lymphoblastoid	BSS00427	LYMPHOBLASTOID CELL LINE
74	Brain	BSS00126	BRAIN	361	Epithelial	BSS01225	BREAST EPITHELIAL CELL	648	Lymphoblastoid	BSS00452	LYMPHOBLASTOID CELL LINE
75	Brain	BSS00127	BRAIN	362	Epithelial	BSS00356	FORESKIN KERATINOCYTE	649	Lymphoblastoid	BSS00395	LYMPHOBLASTOID CELL LINE
76	Brain	BSS00125	BRAIN	363	Epithelial	BSS00357	FORESKIN KERATINOCYTE	650	Lymphoblastoid	BSS00439	LYMPHOBLASTOID CELL LINE
77	Brain	BSS00132	BRAIN	364	Epithelial	BSS00358	FORESKIN KERATINOCYTE	651	Mesench	BSS00039	ADIPOCYTE FROM MSC
78	Brain	BSS00134	BRAIN	365	Epithelial	BSS00359	FORESKIN KERATINOCYTE	652	Mesench	BSS00250	AMNIOTIC FLUID FROM MSC
79	Brain	BSS00141	BRAIN	366	Epithelial	BSS00360	FORESKIN KERATINOCYTE	653	Mesench	BSS00279	EMBRYONIC FACIAL PROMINENCE
80	Brain	BSS00174	CAUDATE NUCLEUS	367	Epithelial	BSS00362	FORESKIN KERATINOCYTE	654	Mesench	BSS01260	MESENCHYMAL STEM CELL
81	Brain	BSS00175	CAUDATE NUCLEUS	368	Epithelial	BSS00363	FORESKIN KERATINOCYTE	655	Muscle	BSS01293	ARM MUSCLE
82	Brain	BSS00173	CAUDATE NUCLEUS	369	Epithelial	BSS00364	FORESKIN KERATINOCYTE	656	Muscle	BSS01294	ARM MUSCLE
83	Brain	BSS00201	CEREBELLAR CORTEX	370	Epithelial	BSS00365	FORESKIN KERATINOCYTE	657	Muscle	BSS01290	ARM MUSCLE
84	Brain	BSS00205	CEREBELLUM	371	Epithelial	BSS00366	FORESKIN KERATINOCYTE	658	Muscle	BSS00352	ARM MUSCLE
85	Brain	BSS00207	CEREBELLUM	372	Epithelial	BSS00355	FORESKIN KERATINOCYTE	659	Muscle	BSS01291	ARM MUSCLE

Figure S1: Sample list with tissue group, unique identifier, and short name for 859 observed/imputed samples (full metadata in Table S1, page 1 of 4).

	Group	BSSID	Extended Info		Group	BSSID	Extended Info		Group	BSSID	Extended Info
86	Brain	BSS00206	CEREBELLUM	373	Epithelial	BSS00361	FORESKIN KERATINOCYTE	660	Muscle	BSS01292	ARM MUSCLE
87	Brain	BSS00219	CINGULATE GYRUS	374	Epithelial	BSS00367	FORESKIN KERATINOCYTE	661	Muscle	BSS01303	ARM MUSCLE
88	Brain	BSS00220	CINGULATE GYRUS	375	Epithelial	BSS00354	FORESKIN KERATINOCYTE	662	Muscle	BSS01304	ARM MUSCLE
89	Brain	BSS00369	FRONTAL CORTEX	376	Epithelial	BSS01071	KERATINOCYTE	663	Muscle	BSS01295	ARM MUSCLE
90	Brain	BSS00371	FRONTAL CORTEX	377	Epithelial	BSS01068	KERATINOCYTE	664	Muscle	BSS01296	ARM MUSCLE
91	Brain	BSS00385	GERMINAL MATRIX	378	Epithelial	BSS01209	MAMMARY EPITHELIAL CELL	665	Muscle	BSS01297	ARM MUSCLE
92	Brain	BSS00386	GLOBUS PALLIDUS	379	Epithelial	BSS01211	MAMMARY EPITHELIAL CELL	666	Muscle	BSS01298	ARM MUSCLE
93	Brain	BSS01125	HIPPOCAMPUS	380	Epithelial	BSS01213	MAMMARY EPITHELIAL CELL	667	Muscle	BSS01299	ARM MUSCLE
94	Brain	BSS01126	HIPPOCAMPUS	381	Epithelial	BSS01185	MAMMARY LUMINAL EPITHELIAL CELL	668	Muscle	BSS01300	ARM MUSCLE
95	Brain	BSS01124	HIPPOCAMPUS	382	Epithelial	BSS01340	MAMMARY MYOEPITHELIAL CELL	669	Muscle	BSS01301	ARM MUSCLE
96	Brain	BSS00729	INFERIOR PARIETAL CORTEX	383	Epithelial	BSS01341	MAMMARY MYOEPITHELIAL CELL	670	Muscle	BSS01289	ARM MUSCLE
97	Brain	BSS01250	MEDULLA OBLONGATA	384	Epithelial	BSS01181	SKIN LEG	671	Muscle	BSS01308	BACK MUSCLE
98	Brain	BSS01270	MIDBRAIN	385	Epithelial	BSS01182	SKIN LEG	672	Muscle	BSS01309	BACK MUSCLE
99	Brain	BSS01271	MIDDLE FRONTAL AREA	386	Epithelial	BSS01587	SKIN OF BODY	673	Muscle	BSS01305	BACK MUSCLE
100	Brain	BSS01272	MIDDLE FRONTAL AREA	387	ES-deriv	BSS00112	BIPOLAR NEURON DERIV	674	Muscle	BSS01306	BACK MUSCLE
101	Brain	BSS01273	MIDDLE FRONTAL GYRUS	388	ES-deriv	BSS01366	NEURAL DERIV	675	Muscle	BSS01307	BACK MUSCLE
102	Brain	BSS01388	OCCIPITAL LOBE	389	ES-deriv	BSS00272	NEURAL PROGENITOR DERIV	676	Muscle	BSS01315	BACK MUSCLE
103	Brain	BSS01451	PONS	390	ES-deriv	BSS01372	NEURAL PROGENITOR DERIV	677	Muscle	BSS01316	BACK MUSCLE
104	Brain	BSS01452	POSTERIOR CINGULATE CORTEX	391	ES-deriv	BSS01370	NEURAL PROGENITOR DERIV	678	Muscle	BSS01317	BACK MUSCLE
105	Brain	BSS01469	PUTAMEN	392	ES-deriv	BSS01371	NEURAL PROGENITOR DERIV	679	Muscle	BSS01310	BACK MUSCLE
106	Brain	BSS01675	SUBSTANTIA NIGRA	393	ES-deriv	BSS01375	NEURON DERIV	680	Muscle	BSS01311	BACK MUSCLE
107	Brain	BSS01676	SUBSTANTIA NIGRA	394	ES-deriv	BSS00169	CARDIAC MESODERM DERIV	681	Muscle	BSS01312	BACK MUSCLE
108	Brain	BSS01677	SUPERIOR TEMPORAL GYRUS	395	ES-deriv	BSS00171	CARDIAC MUSCLE DERIV	682	Muscle	BSS01313	BACK MUSCLE
109	Brain	BSS01714	TEMPORAL LOBE	396	ES-deriv	BSS00556	HEPATOCYTE DERIV	683	Muscle	BSS01314	BACK MUSCLE
110	Brain	BSS01712	TEMPORAL LOBE	397	ES-deriv	BSS01261	MESENCHYMAL STEM DERIV	684	Muscle	BSS00170	CARDIAC MYOCYTE
111	Cancer	BSS01105	ACUTE LYMPHOBLASTIC LEUKEMIA	398	ES-deriv	BSS01857	TROPHOBLAST DERIV	685	Muscle	BSS00376	GASTROCNEMIUS MEDIALIS
112	Cancer	BSS00267	ACUTE LYMPHOBLASTIC LEUKEMIA	399	ES-deriv	BSS01612	SMOOTH MUSCLE DERIV	686	Muscle	BSS00378	GASTROCNEMIUS MEDIALIS
113	Cancer	BSS01178	ACUTE LYMPHOBLASTIC LEUKEMIA	400	ES-deriv	BSS00273	ECTODERMAL DERIV	687	Muscle	BSS00377	GASTROCNEMIUS MEDIALIS
114	Cancer	BSS01267	OSTEOSARCOMA	401	ES-deriv	BSS00285	ENDODERMAL CELL	688	Muscle	BSS00379	GASTROCNEMIUS MEDIALIS
115	Cancer	BSS01550	OSTEOSARCOMA	402	ES-deriv	BSS00287	ENDODERMAL DERIV	689	Muscle	BSS01322	LEG MUSCLE
116	Cancer	BSS00246	DESMOPLASTIC MEDULLOBLASTOMA	403	ES-deriv	BSS01263	MESENDODERM DERIV	690	Muscle	BSS01318	LEG MUSCLE
117	Cancer	BSS01208	GLIOBLASTOMA	404	ES-deriv	BSS01264	MESODERMAL DERIV	691	Muscle	BSS01320	LEG MUSCLE
118	Cancer	BSS00004	GLIOBLASTOMA	405	ESC	BSS00277	ESC	692	Muscle	BSS01321	LEG MUSCLE
119	Cancer	BSS00482	GLIOBLASTOMA	406	ESC	BSS00315	ESC	693	Muscle	BSS01329	LEG MUSCLE
120	Cancer	BSS01251	MEDULLOBLASTOMA	407	ESC	BSS01866	ESC	694	Muscle	BSS01330	LEG MUSCLE
121	Cancer	BSS01554	NEUROBLASTOMA	408	ESC	BSS00483	ESC	695	Muscle	BSS01323	LEG MUSCLE
122	Cancer	BSS01558	NEUROBLASTOMA	409	ESC	BSS00715	ESC	696	Muscle	BSS01324	LEG MUSCLE
123	Cancer	BSS00102	NEUROBLASTOMA	410	ESC	BSS00716	ESC	697	Muscle	BSS01325	LEG MUSCLE
124	Cancer	BSS01571	NEUROBLASTOMA	411	ESC	BSS00717	ESC	698	Muscle	BSS01327	LEG MUSCLE
125	Cancer	BSS01562	NEUROBLASTOMA	412	ESC	BSS00484	ESC	699	Muscle	BSS00700	LEG MUSCLE
126	Cancer	BSS01559	NEUROEPITHELIOMA	413	ESC	BSS00478	ESC	700	Muscle	BSS01328	LEG MUSCLE
127	Cancer	BSS00481	NEUROGLIOMA	414	Eye	BSS00329	EYE	701	Muscle	BSS01319	LEG MUSCLE
128	Cancer	BSS01535	COLON CARCINOMA	415	Eye	BSS00328	EYE	702	Muscle	BSS01460	PSOAS MUSCLE
129	Cancer	BSS01682	COLORECTAL ADENOCARCINOMA	416	Eye	BSS01504	EYE RETINA	703	Muscle	BSS01461	PSOAS MUSCLE
130	Cancer	BSS00708	COLORECTAL ADENOCARCINOMA	417	Eye	BSS01503	EYE RETINA	704	Muscle	BSS01462	PSOAS MUSCLE
131	Cancer	BSS01179	COLORECTAL ADENOCARCINOMA	418	Eye	BSS01502	EYE RETINA	705	Muscle	BSS01463	PSOAS MUSCLE
132	Cancer	BSS00159	COLORECTAL ADENOCARCINOMA	419	Heart	BSS00079	AORTA	706	Muscle	BSS01581	SKELETAL MUSCLE
133	Cancer	BSS00492	COLORECTAL ADENOCARCINOMA	420	Heart	BSS00080	AORTA	707	Muscle	BSS01577	SKELETAL MUSCLE
134	Cancer	BSS01412	PARATHYROID ADENOMA	421	Heart	BSS00088	ASCENDING AORTA	708	Muscle	BSS01578	SKELETAL MUSCLE
135	Cancer	BSS01411	PARATHYROID ADENOMA	422	Heart	BSS00087	ASCENDING AORTA	709	Muscle	BSS01572	SKELETAL MUSCLE CELL
136	Cancer	BSS01386	TESTICULAR EMBRYONAL CARCINOMA	423	Heart	BSS00242	CORONARY ARTERY	710	Muscle	BSS01845	TONGUE
137	Cancer	BSS01536	MELANOMA	424	Heart	BSS00243	CORONARY ARTERY	711	Muscle	BSS01846	TONGUE
138	Cancer	BSS01551	MELANOMA	425	Heart	BSS00505	HEART	712	Muscle	BSS01331	TRUNK MUSCLE
139	Cancer	BSS00222	MELANOMA	426	Heart	BSS00498	HEART	713	Muscle	BSS01333	TRUNK MUSCLE
140	Cancer	BSS01365	MYELOMA	427	Heart	BSS00499	HEART	714	Muscle	BSS01334	TRUNK MUSCLE
141	Cancer	BSS01890	EYE RETINOBLASTOMA	428	Heart	BSS00500	HEART	715	Muscle	BSS01332	TRUNK MUSCLE
142	Cancer	BSS00702	ACUTE PROMYELOCYTIC LEUKEMIA	429	Heart	BSS00502	HEART	716	Myosat	BSS01338	MYOCYTE
143	Cancer	BSS01356	ACUTE PROMYELOCYTIC LEUKEMIA	430	Heart	BSS00503	HEART	717	Myosat	BSS01344	MYOTUBE
144	Cancer	BSS01391	B CELL LYMPHOMA	431	Heart	BSS00501	HEART	718	Myosat	BSS01155	SKELETAL MUSCLE MYOBLAST
145	Cancer	BSS01390	B CELL LYMPHOMA	432	Heart	BSS00516	HEART	719	Myosat	BSS01573	SKELETAL MUSCLE MYOBLAST
146	Cancer	BSS01065	B CELL LYMPHOMA	433	Heart	BSS00522	HEART	720	Myosat	BSS01574	SKELETAL MUSCLE MYOBLAST
147	Cancer	BSS00268	B CELL LYMPHOMA	434	Heart	BSS00518	HEART	721	Myosat	BSS01576	SKELETAL MUSCLE SATELLITE CELL
148	Cancer	BSS01664	B CELL LYMPHOMA	435	Heart	BSS00519	HEART	722	Neurosph	BSS01378	NEUROSPHERE
149	Cancer	BSS01389	B CELL LYMPHOMA	436	Heart	BSS00514	HEART	723	Neurosph	BSS01379	NEUROSPHERE
150	Cancer	BSS01350	BURKITT LYMPHOMA	437	Heart	BSS00520	HEART	724	Neurosph	BSS01377	NEUROSPHERE
151	Cancer	BSS01351	BURKITT LYMPHOMA	438	Heart	BSS00495	HEART	725	Neurosph	BSS01392	OLFACTORY NEUROSPHERE
152	Cancer	BSS00491	HAPLOID MYELOGENOUS LEUKEMIA	439	Heart	BSS00496	HEART	726	Other	BSS00148	BREAST EPITHELIUM
153	Cancer	BSS01038	MYELOGENOUS LEUKEMIA	440	Heart	BSS00494	HEART	727	Other	BSS00145	BREAST EPITHELIUM
154	Cancer	BSS01039	MYELOGENOUS LEUKEMIA	441	Heart	BSS00521	HEART	728	Other	BSS00146	BREAST EPITHELIUM
155	Cancer	BSS01056	MYELOGENOUS LEUKEMIA	442	Heart	BSS00517	HEART	729	Other	BSS00304	EPIDERMAL MELANOCYTE
156	Cancer	BSS01057	MYELOGENOUS LEUKEMIA	443	Heart	BSS00493	HEART	730	Other	BSS00368	FORESKIN MELANOCYTE
157	Cancer	BSS01059	MYELOGENOUS LEUKEMIA	444	Heart	BSS01127	HEART LEFT ATRIUM	731	Other	BSS01156	LIMB EMBRYO
158	Cancer	BSS00221	MYELOGENOUS LEUKEMIA	445	Heart	BSS00509	HEART LEFT VENTRICLE	732	Other	BSS01157	LIMB EMBRYO
159	Cancer	BSS01066	MYELOGENOUS LEUKEMIA	446	Heart	BSS00508	HEART LEFT VENTRICLE	733	Other	BSS01216	MAMMARY STEM CELL
160	Cancer	BSS00762	MYELOGENOUS LEUKEMIA	447	Heart	BSS00506	HEART LEFT VENTRICLE	734	Pancreas	BSS00121	BODY OF PANCREAS
161	Cancer	BSS01104	MYELOMA	448	Heart	BSS00513	HEART LEFT VENTRICLE	735	Pancreas	BSS00122	BODY OF PANCREAS
162	Cancer	BSS01274	MYELOMA	449	Heart	BSS00512	HEART LEFT VENTRICLE	736	Pancreas	BSS00123	BODY OF PANCREAS
163	Cancer	BSS01537	PLASMA CELL MYELOMA	450	Heart	BSS00507	HEART LEFT VENTRICLE	737	Pancreas	BSS00124	BODY OF PANCREAS
164	Cancer	BSS00160	KIDNEY CLEAR CELL CARCINOMA	451	Heart	BSS01506	HEART RIGHT ATRIUM	738	Pancreas	BSS00758	ISLET PRECURSOR CELL
165	Cancer	BSS00372	KIDNEY RHABOID TUMOR	452	Heart	BSS01508	HEART RIGHT ATRIUM	739	Pancreas	BSS01406	PANCREAS
166	Cancer	BSS00037	RENAL CELL ADENOCARCINOMA	453	Heart	BSS01507	HEART RIGHT ATRIUM	740	Pancreas	BSS01407	PANCREAS
167	Cancer	BSS01474	RENAL CELL ADENOCARCINOMA	454	Heart	BSS00523	HEART RIGHT VENTRICLE	741	Placenta & EEM	BSS00074	AMNION
168	Cancer	BSS01481	RENAL CELL CARCINOMA	455	Heart	BSS00524	HEART RIGHT VENTRICLE	742	Placenta & EEM	BSS00076	AMNION STEM CELL
169	Cancer	BSS00718	HEPATOCELLULAR CARCINOMA	456	Heart	BSS00525	HEART RIGHT VENTRICLE	743	Placenta & EEM	BSS00209	CHORION

Figure S1: (continued, 2 of 4)

	Group	BSSID	Extended Info		Group	BSSID	Extended Info		Group	BSSID	Extended Info
170	Cancer	BSS00719	HEPATOCELLULAR CARCINOMA	457	Heart	BSS01815	THORACIC AORTA	744	Placenta & EEM	BSS00211	CHORION
171	Cancer	BSS00558	HEPATOCELLULAR CARCINOMA	458	Heart	BSS01814	THORACIC AORTA	745	Placenta & EEM	BSS00212	CHORION
172	Cancer	BSS01360	LARGE CELL LUNG CANCER	459	Heart	BSS01839	TIBIAL ARTERY	746	Placenta & EEM	BSS00215	CHORIONIC VILLUS
173	Cancer	BSS01415	LUNG ADENOCARCINOMA	460	Heart	BSS01838	TIBIAL ARTERY	747	Placenta & EEM	BSS00216	CHORIONIC VILLUS
174	Cancer	BSS00017	LUNG EPITHELIAL CARCINOMA	461	Heart	BSS01837	TIBIAL ARTERY	748	Placenta & EEM	BSS00217	CHORIONIC VILLUS
175	Cancer	BSS00019	LUNG EPITHELIAL CARCINOMA	462	HSC & B-cell	BSS00097	B CELL	749	Placenta & EEM	BSS00214	CHORIONIC VILLUS
176	Cancer	BSS00021	LUNG EPITHELIAL CARCINOMA	463	HSC & B-cell	BSS01345	B CELL	750	Placenta & EEM	BSS01440	PLACENTA
177	Cancer	BSS00022	LUNG EPITHELIAL CARCINOMA	464	HSC & B-cell	BSS00098	B CELL	751	Placenta & EEM	BSS01436	PLACENTA
178	Cancer	BSS00027	LUNG EPITHELIAL CARCINOMA	465	HSC & B-cell	BSS00093	B CELL	752	Placenta & EEM	BSS01437	PLACENTA
179	Cancer	BSS00016	LUNG EPITHELIAL CARCINOMA	466	HSC & B-cell	BSS00096	B CELL	753	Placenta & EEM	BSS01435	PLACENTA
180	Cancer	BSS00020	LUNG EPITHELIAL CARCINOMA	467	HSC & B-cell	BSS00100	B CELL	754	Placenta & EEM	BSS01443	PLACENTA
181	Cancer	BSS00023	LUNG EPITHELIAL CARCINOMA	468	HSC & B-cell	BSS00101	B CELL	755	Placenta & EEM	BSS01444	PLACENTA
182	Cancer	BSS00024	LUNG EPITHELIAL CARCINOMA	469	HSC & B-cell	BSS00095	B CELL	756	Placenta & EEM	BSS01433	PLACENTA
183	Cancer	BSS00026	LUNG EPITHELIAL CARCINOMA	470	HSC & B-cell	BSS00179	CD14 MONOCYTE	757	Placenta & EEM	BSS01432	PLACENTA
184	Cancer	BSS00028	LUNG EPITHELIAL CARCINOMA	471	HSC & B-cell	BSS00181	CD14 MONOCYTE	758	Placenta & EEM	BSS01430	PLACENTA
185	Cancer	BSS00029	LUNG EPITHELIAL CARCINOMA	472	HSC & B-cell	BSS00180	CD14 MONOCYTE	759	Placenta & EEM	BSS01448	PLACENTA
186	Cancer	BSS00018	LUNG EPITHELIAL CARCINOMA	473	HSC & B-cell	BSS00178	CD14 MONOCYTE	760	Placenta & EEM	BSS01446	PLACENTA
187	Cancer	BSS00025	LUNG EPITHELIAL CARCINOMA	474	HSC & B-cell	BSS00182	CD1C MYELOID DENDRITIC CELL	761	Placenta & EEM	BSS01441	PLACENTA
188	Cancer	BSS00030	LUNG EPITHELIAL CARCINOMA	475	HSC & B-cell	BSS00233	CD34 CMP	762	Placenta & EEM	BSS01431	PLACENTA
189	Cancer	BSS00007	LUNG EPITHELIAL CARCINOMA	476	HSC & B-cell	BSS00230	CD34 CMP	763	Placenta & EEM	BSS01438	PLACENTA
190	Cancer	BSS00013	LUNG EPITHELIAL CARCINOMA	477	HSC & B-cell	BSS00236	CD34 CMP	764	Placenta & EEM	BSS00714	TROPHOBLAST
191	Cancer	BSS00015	LUNG EPITHELIAL CARCINOMA	478	HSC & B-cell	BSS00238	CD34 CMP	765	Placenta & EEM	BSS01856	TROPHOBLAST
192	Cancer	BSS01359	SQUAMOUS CELL CARCINOMA	479	HSC & B-cell	BSS00240	CD34 CMP	766	Placenta & EEM	BSS01853	TROPHOBLAST
193	Cancer	BSS00035	MUSCLE EWING SARCOMA	480	HSC & B-cell	BSS00241	CD34 CMP	767	Placenta & EEM	BSS01855	TROPHOBLAST
194	Cancer	BSS01549	RHABDOMYOSARCOMA	481	HSC & B-cell	BSS00234	CD34 CMP	768	Placenta & EEM	BSS01852	TROPHOBLAST
195	Cancer	BSS00036	ADENOID CYSTIC CARCINOMA	482	HSC & B-cell	BSS00235	CD34 CMP	769	Placenta & EEM	BSS01859	TROPHOBLAST
196	Cancer	BSS01240	MAMMARY GLAND ADENOCARCINOMA	483	HSC & B-cell	BSS00229	CD34 CMP	770	Placenta & EEM	BSS01860	TROPHOBLAST
197	Cancer	BSS01243	MAMMARY GLAND ADENOCARCINOMA	484	HSC & B-cell	BSS00237	CD34 CMP	771	Placenta & EEM	BSS01867	UMBILICAL CORD
198	Cancer	BSS01244	MAMMARY GLAND ADENOCARCINOMA	485	HSC & B-cell	BSS00239	CD34 CMP	772	PNS	BSS01618	SPINAL CORD
199	Cancer	BSS01235	MAMMARY GLAND ADENOCARCINOMA	486	HSC & B-cell	BSS00231	CD34 CMP	773	PNS	BSS01619	SPINAL CORD
200	Cancer	BSS01226	MAMMARY GLAND ADENOCARCINOMA	487	HSC & B-cell	BSS00232	CD34 CMP	774	PNS	BSS01617	SPINAL CORD
201	Cancer	BSS01699	MAMMARY GLAND DUCTAL CARCINOMA	488	HSC & B-cell	BSS00384	GERMINAL CENTER	775	PNS	BSS01621	SPINAL CORD
202	Cancer	BSS01705	MAMMARY GLAND DUCTAL CARCINOMA	489	HSC & B-cell	BSS00760	LYMPHOCYTE	776	PNS	BSS01620	SPINAL CORD
203	Cancer	BSS00003	PANCREAS ADENOCARCINOMA	490	HSC & B-cell	BSS00544	MPP	777	PNS	BSS01614	SPINAL CORD
204	Cancer	BSS01405	PANCREAS DUCT EPITHELIAL CARCINOMA	491	HSC & B-cell	BSS00545	MPP	778	PNS	BSS01613	SPINAL CORD
205	Cancer	BSS00541	CERVIX ADENOCARCINOMA	492	HSC & B-cell	BSS00546	MPP	779	PNS	BSS01842	TIBIAL NERVE
206	Cancer	BSS00531	CERVIX ADENOCARCINOMA	493	HSC & B-cell	BSS00547	MPP	780	PNS	BSS01840	TIBIAL NERVE
207	Cancer	BSS00529	CERVIX ADENOCARCINOMA	494	HSC & B-cell	BSS00548	MPP	781	PNS	BSS01841	TIBIAL NERVE
208	Cancer	BSS00748	ENDOMETRIAL ADENOCARCINOMA	495	HSC & B-cell	BSS00549	MPP	782	Reproductive	BSS01456	PROSTATE GLAND
209	Cancer	BSS00756	ENDOMETRIAL ADENOCARCINOMA	496	HSC & B-cell	BSS00550	MPP	783	Reproductive	BSS01457	PROSTATE GLAND
210	Cancer	BSS00745	ENDOMETRIAL ADENOCARCINOMA	497	HSC & B-cell	BSS00551	MPP	784	Reproductive	BSS01459	PROSTATE GLAND
211	Cancer	BSS01174	PROSTATE ADENOCARCINOMA	498	HSC & B-cell	BSS00552	MPP	785	Reproductive	BSS01884	UTERUS
212	Cancer	BSS01173	PROSTATE ADENOCARCINOMA	499	HSC & B-cell	BSS00543	MPP	786	Reproductive	BSS01886	VAGINA
213	Cancer	BSS01414	PROSTATE ADENOCARCINOMA	500	HSC & B-cell	BSS01381	NEUTROPHIL	787	Reproductive	BSS01887	VAGINA
214	Cancer	BSS00157	PROSTATE CANCER	501	HSC & B-cell	BSS01380	NEUTROPHIL	788	Sm. Muscle	BSS01606	BRAIN VASCULATURE SMOOTH MUSCLE CELL
215	Cancer	BSS01888	PROSTATE EPITHELIAL CARCINOMA	502	HSC & B-cell	BSS01353	NK CELL	789	Sm. Muscle	BSS01285	COLON MUSCLE
216	Cancer	BSS00001	PROSTATE EPITHELIAL CARCINOMA	503	HSC & B-cell	BSS01355	NK CELL	790	Sm. Muscle	BSS01286	COLON MUSCLE
217	Cancer	BSS00002	PROSTATE EPITHELIAL CARCINOMA	504	HSC & B-cell	BSS01354	NK CELL	791	Sm. Muscle	BSS01288	DUODENUM MUSCLE
218	Cancer	BSS00709	FIBROSARCOMA	505	iPSC	BSS00742	iPSC	792	Sm. Muscle	BSS01287	DUODENUM MUSCLE
219	Digestive	BSS00227	COLON MUCOSA	506	iPSC	BSS00735	iPSC	793	Sm. Muscle	BSS01475	RECTUM MUSCLE
220	Digestive	BSS00228	COLON MUCOSA	507	iPSC	BSS00741	iPSC	794	Sm. Muscle	BSS01660	STOMACH MUSCLE
221	Digestive	BSS00271	DUODENUM MUCOSA	508	iPSC	BSS00732	iPSC	795	Sm. Muscle	BSS01659	STOMACH MUSCLE
222	Digestive	BSS00270	DUODENUM MUCOSA	509	iPSC	BSS00733	iPSC	796	Spleen	BSS01625	SPLEEN
223	Digestive	BSS00316	ESOPHAGUS	510	iPSC	BSS00244	iPSC	797	Spleen	BSS01628	SPLEEN
224	Digestive	BSS00318	ESOPHAGUS	511	iPSC	BSS01107	iPSC	798	Spleen	BSS01629	SPLEEN
225	Digestive	BSS00323	ESOPHAGUS MUSCULARIS MUCOSA	512	iPSC	BSS01108	iPSC	799	Spleen	BSS01633	SPLEEN
226	Digestive	BSS00322	ESOPHAGUS MUSCULARIS MUCOSA	513	iPSC	BSS00738	iPSC	800	Spleen	BSS01634	SPLEEN
227	Digestive	BSS00321	ESOPHAGUS MUSCULARIS MUCOSA	514	iPSC	BSS00736	iPSC	801	Spleen	BSS01631	SPLEEN
228	Digestive	BSS00324	ESOPHAGUS SQUAMOUS EPITHELIUM	515	iPSC	BSS00737	iPSC	802	Spleen	BSS01630	SPLEEN
229	Digestive	BSS00326	ESOPHAGUS SQUAMOUS EPITHELIUM	516	iPSC	BSS00739	iPSC	803	Stromal	BSS01661	BONE MARROW STROMAL CELL
230	Digestive	BSS00325	ESOPHAGUS SQUAMOUS EPITHELIUM	517	iPSC	BSS00731	iPSC	804	Stromal	BSS00144	PERICYTE
231	Digestive	BSS00380	GASTROESOPHAGEAL SPHINCTER	518	iPSC	BSS00734	iPSC	805	Stromal	BSS00349	CONJUNCTIVA FIBROBLAST
232	Digestive	BSS00381	GASTROESOPHAGEAL SPHINCTER	519	iPSC	BSS00477	iPSC	806	Stromal	BSS00347	AORTA FIBROBLAST
233	Digestive	BSS01116	LARGE INTESTINE	520	Kidney	BSS01091	KIDNEY	807	Stromal	BSS00168	CARDIAC FIBROBLAST
234	Digestive	BSS01117	LARGE INTESTINE	521	Kidney	BSS01132	KIDNEY	808	Stromal	BSS00166	CARDIAC FIBROBLAST
235	Digestive	BSS01109	LARGE INTESTINE	522	Kidney	BSS01512	KIDNEY	809	Stromal	BSS00167	CARDIAC FIBROBLAST
236	Digestive	BSS01110	LARGE INTESTINE	523	Kidney	BSS01133	KIDNEY	810	Stromal	BSS00064	LUNG FIBROBLAST
237	Digestive	BSS01111	LARGE INTESTINE	524	Kidney	BSS01513	KIDNEY	811	Stromal	BSS01891	LUNG FIBROBLAST
238	Digestive	BSS01112	LARGE INTESTINE	525	Kidney	BSS01084	KIDNEY	812	Stromal	BSS00342	LUNG FIBROBLAST
239	Digestive	BSS01113	LARGE INTESTINE	526	Kidney	BSS01128	KIDNEY	813	Stromal	BSS00339	LUNG FIBROBLAST
240	Digestive	BSS01114	LARGE INTESTINE	527	Kidney	BSS01509	KIDNEY	814	Stromal	BSS00062	LUNG FIBROBLAST
241	Digestive	BSS01122	LARGE INTESTINE	528	Kidney	BSS01085	KIDNEY	815	Stromal	BSS00341	LUNG FIBROBLAST
242	Digestive	BSS01118	LARGE INTESTINE	529	Kidney	BSS01129	KIDNEY	816	Stromal	BSS00720	LUNG FIBROBLAST
243	Digestive	BSS01120	LARGE INTESTINE	530	Kidney	BSS01086	KIDNEY	817	Stromal	BSS00345	PULMONARY ARTERY FIBROBLAST
244	Digestive	BSS01121	LARGE INTESTINE	531	Kidney	BSS01510	KIDNEY	818	Stromal	BSS00338	GINGIVAL FIBROBLAST
245	Digestive	BSS01119	LARGE INTESTINE	532	Kidney	BSS01089	KIDNEY	819	Stromal	BSS00067	GINGIVAL FIBROBLAST
246	Digestive	BSS01427	PEYERS PATCH	533	Kidney	BSS01130	KIDNEY	820	Stromal	BSS00344	PERIDONTAL LIGAMENT FIBROBLAST
247	Digestive	BSS01428	PEYERS PATCH	534	Kidney	BSS01511	KIDNEY	821	Stromal	BSS00350	VILLOUS MESENCHYME FIBROBLAST
248	Digestive	BSS01426	PEYERS PATCH	535	Kidney	BSS01090	KIDNEY	822	Stromal	BSS00332	BREAST FIBROBLAST
249	Digestive	BSS01282	RECTUM MUCOSA	536	Kidney	BSS01078	KIDNEY	823	Stromal	BSS00333	BREAST FIBROBLAST
250	Digestive	BSS01283	RECTUM MUCOSA	537	Kidney	BSS01100	KIDNEY	824	Stromal	BSS00335	DERMIS FIBROBLAST
251	Digestive	BSS01542	SIGMOID COLON	538	Kidney	BSS01101	KIDNEY	825	Stromal	BSS00334	DERMIS FIBROBLAST
252	Digestive	BSS01546	SIGMOID COLON	539	Kidney	BSS01135	KIDNEY	826	Stromal	BSS00337	DERMIS FIBROBLAST
253	Digestive	BSS01547	SIGMOID COLON	540	Kidney	BSS01516	KIDNEY	827	Stromal	BSS00697	FORESKIN FIBROBLAST

Figure S1: (continued, 3 of 4)

	Group	BSSID	Extended Info		Group	BSSID	Extended Info		Group	BSSID	Extended Info
254	Digestive	BSS01548	SIGMOID COLON	541	Kidney	BSS01517	KIDNEY	828	Stromal	BSS00353	FORESKIN FIBROBLAST
255	Digestive	BSS01545	SIGMOID COLON	542	Kidney	BSS01136	KIDNEY	829	Stromal	BSS00343	MAMMARY FIBROBLAST
256	Digestive	BSS01543	SIGMOID COLON	543	Kidney	BSS01518	KIDNEY	830	Stromal	BSS00275	SKIN FIBROBLAST
257	Digestive	BSS01595	SMALL INTESTINE	544	Kidney	BSS01099	KIDNEY	831	Stromal	BSS00276	SKIN FIBROBLAST
258	Digestive	BSS01596	SMALL INTESTINE	545	Kidney	BSS01514	KIDNEY	832	Stromal	BSS00393	SKIN FIBROBLAST
259	Digestive	BSS01590	SMALL INTESTINE	546	Kidney	BSS01134	KIDNEY	833	Stromal	BSS00394	SKIN FIBROBLAST
260	Digestive	BSS01591	SMALL INTESTINE	547	Kidney	BSS01515	KIDNEY	834	Stromal	BSS00063	SKIN FIBROBLAST
261	Digestive	BSS01592	SMALL INTESTINE	548	Kidney	BSS01131	KIDNEY	835	Stromal	BSS00069	SKIN FIBROBLAST
262	Digestive	BSS01593	SMALL INTESTINE	549	Kidney	BSS01079	KIDNEY	836	Stromal	BSS00346	SKIN FIBROBLAST
263	Digestive	BSS01594	SMALL INTESTINE	550	Kidney	BSS01096	KIDNEY	837	Stromal	BSS01583	SKIN FIBROBLAST
264	Digestive	BSS01603	SMALL INTESTINE	551	Kidney	BSS01097	KIDNEY	838	Stromal	BSS00278	SKIN FIBROBLAST
265	Digestive	BSS01604	SMALL INTESTINE	552	Kidney	BSS01088	KIDNEY	839	Stromal	BSS00390	SKIN FIBROBLAST
266	Digestive	BSS01600	SMALL INTESTINE	553	Kidney	BSS00528	KIDNEY CELL	840	Stromal	BSS00066	SKIN FIBROBLAST
267	Digestive	BSS01602	SMALL INTESTINE	554	Kidney	BSS00526	KIDNEY CELL	841	Stromal	BSS00061	SKIN FIBROBLAST
268	Digestive	BSS01597	SMALL INTESTINE	555	Kidney	BSS01484	RENAL CORTEX INTERSTITIUM	842	Stromal	BSS00068	SKIN FIBROBLAST
269	Digestive	BSS01599	SMALL INTESTINE	556	Kidney	BSS01485	RENAL CORTEX INTERSTITIUM	843	Stromal	BSS00476	SKIN FIBROBLAST
270	Digestive	BSS01588	SMALL INTESTINE	557	Kidney	BSS01482	RENAL CORTEX INTERSTITIUM	844	Stromal	BSS00113	SKIN FIBROBLAST
271	Digestive	BSS01601	SMALL INTESTINE	558	Kidney	BSS01483	RENAL CORTEX INTERSTITIUM	845	Thymus	BSS01824	THYMUS
272	Digestive	BSS01637	STOMACH	559	Kidney	BSS01489	RENAL CORTEX INTERSTITIUM	846	Thymus	BSS01819	THYMUS
273	Digestive	BSS01642	STOMACH	560	Kidney	BSS01490	RENAL CORTEX INTERSTITIUM	847	Thymus	BSS01821	THYMUS
274	Digestive	BSS01643	STOMACH	561	Kidney	BSS01150	RENAL CORTEX INTERSTITIUM	848	Thymus	BSS01823	THYMUS
275	Digestive	BSS01644	STOMACH	562	Kidney	BSS01531	RENAL CORTEX INTERSTITIUM	849	Thymus	BSS01818	THYMUS
276	Digestive	BSS01646	STOMACH	563	Kidney	BSS01486	RENAL CORTEX INTERSTITIUM	850	Thymus	BSS01826	THYMUS
277	Digestive	BSS01647	STOMACH	564	Kidney	BSS01487	RENAL CORTEX INTERSTITIUM	851	Thymus	BSS01827	THYMUS
278	Digestive	BSS01641	STOMACH	565	Kidney	BSS01151	RENAL CORTEX INTERSTITIUM	852	Thymus	BSS01828	THYMUS
279	Digestive	BSS01658	STOMACH	566	Kidney	BSS01532	RENAL CORTEX INTERSTITIUM	853	Thymus	BSS01829	THYMUS
280	Digestive	BSS01655	STOMACH	567	Kidney	BSS01488	RENAL CORTEX INTERSTITIUM	854	Thymus	BSS01820	THYMUS
281	Digestive	BSS01656	STOMACH	568	Kidney	BSS01495	RENAL PELVIS	855	Thymus	BSS01825	THYMUS
282	Digestive	BSS01657	STOMACH	569	Kidney	BSS01496	RENAL PELVIS	856	Urinary	BSS01878	URINARY BLADDER
283	Digestive	BSS01636	STOMACH	570	Kidney	BSS01493	RENAL PELVIS	857	Urinary	BSS01876	URINARY BLADDER
284	Digestive	BSS01638	STOMACH	571	Kidney	BSS01494	RENAL PELVIS	858	Urinary	BSS01879	UROTHELIUM CELL
285	Digestive	BSS01650	STOMACH	572	Kidney	BSS01500	RENAL PELVIS	859	Urinary	BSS01880	UROTHELIUM CELL
286	Digestive	BSS01653	STOMACH	573	Kidney	BSS01501	RENAL PELVIS				
287	Digestive	BSS01649	STOMACH	574	Kidney	BSS01152	RENAL PELVIS				

Figure S1: (continued, 4 of 4)

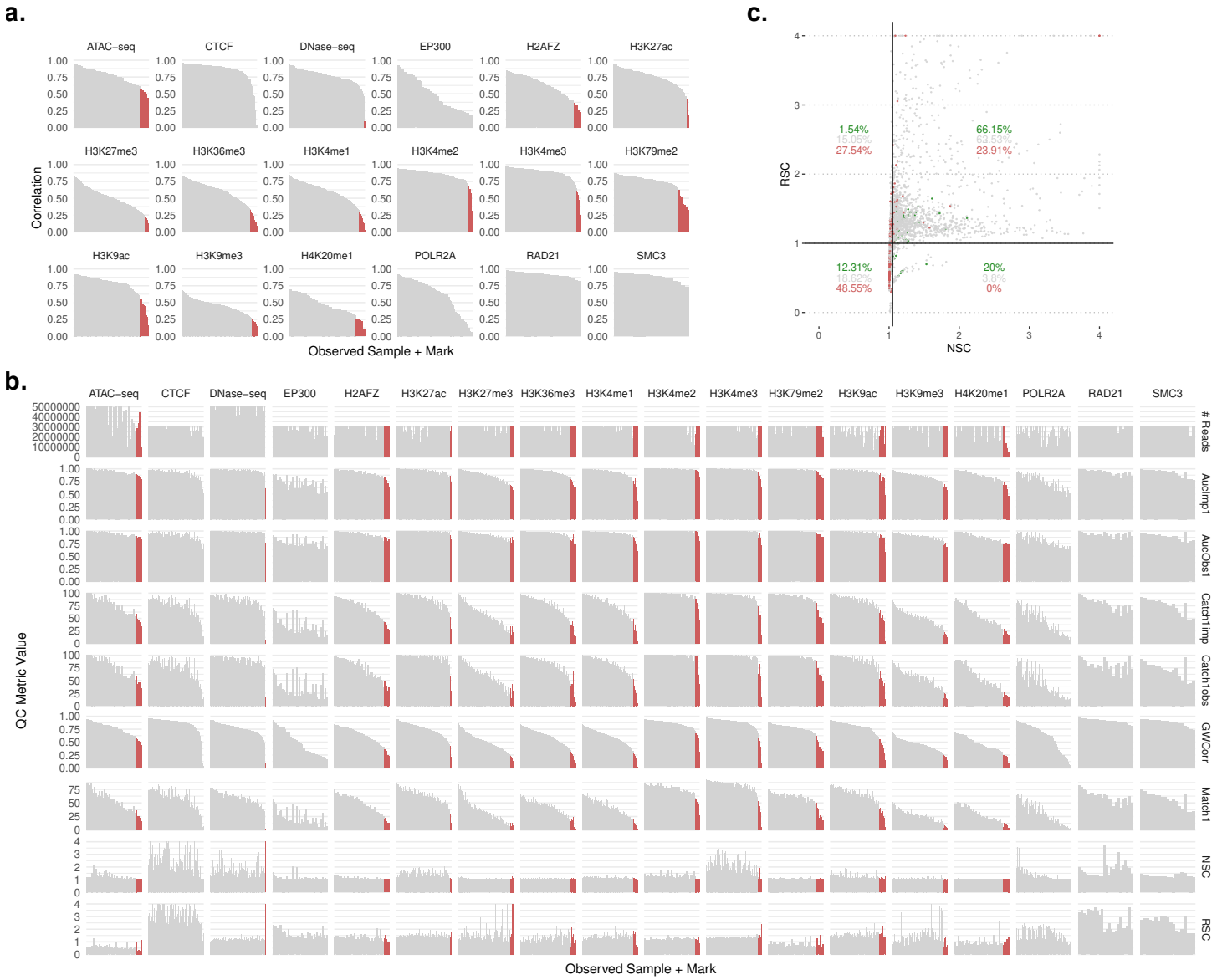


Figure S2: a. Track agreement between observed and imputed in the Tier 1 marks, where both are available, by genome wide correlation. Top (green) and bottom (red) tracks are labeled according to automated elbow discovery in the ranked list. **b.** All imputation metrics (from original ChromImpute paper: correlation, AUC, and peak recovery) and QC metrics (reads, NSC, RSC) across all 18 imputed Tier 1,2, and 3 assays, ordered according to correlation between imputed and observed within each assay. Bottom tracks for Tier 1 and 2 assays are labeled in red, as above. **c.** Imputation QC metrics reflect external ChIP-seq quality metrics (NSC and RSC). Normalized Strand Cross-correlation coefficient (NSC) against Relative Strand Cross-correlation coefficient (RSC) for observed tracks. Top (green) and bottom (red) tracks are labeled according to automated elbow discovery in imputed vs. observed correlation ranked list. Poor agreement tracks are strongly clustered in lower left quadrant of tracks failing QC. Critical values subdivide the plot for NSC (1.05) and RSC (1).

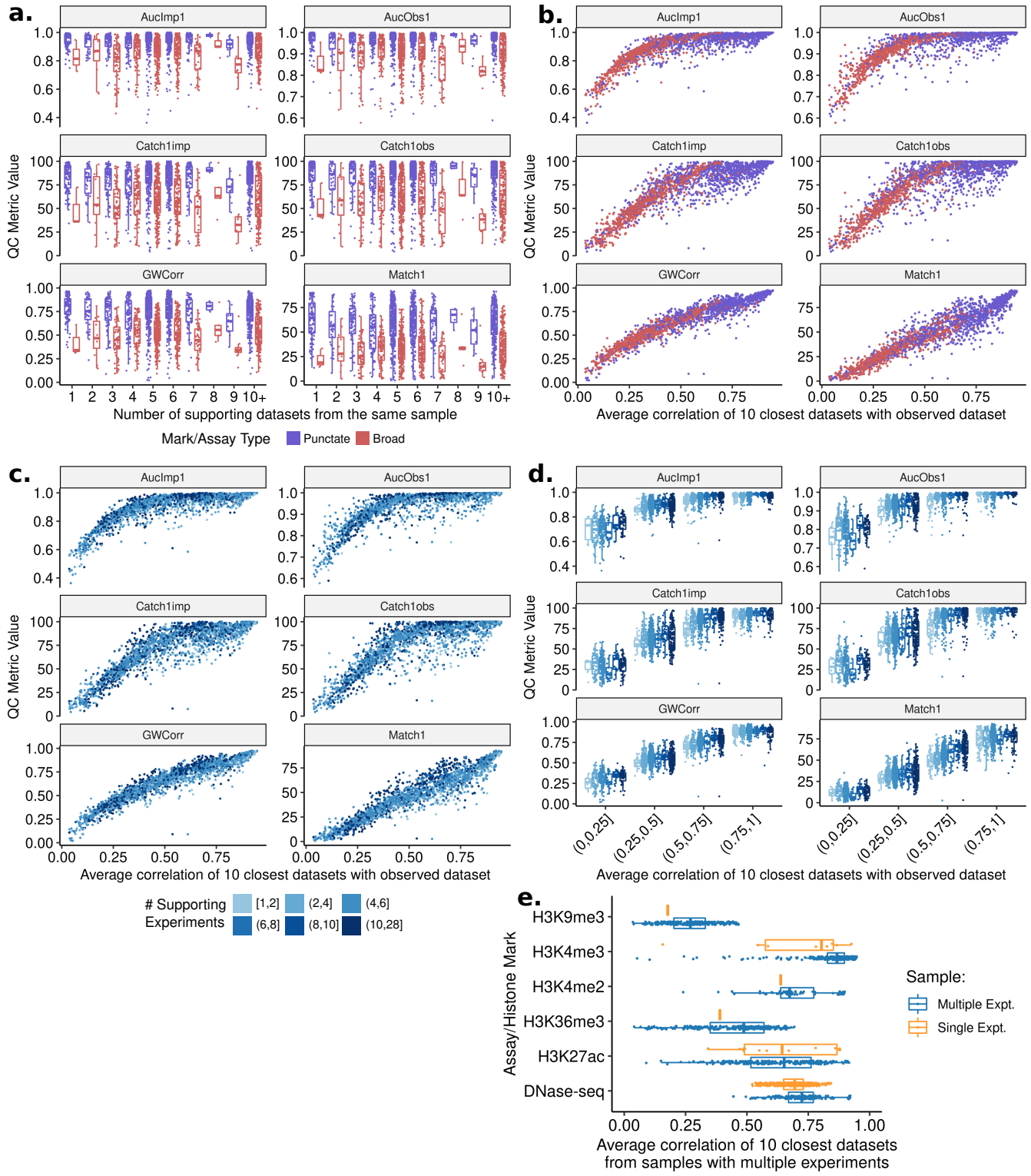


Figure S3: Imputation quality by level of sample-internal and sample-external support. a. Imputation QC metrics in punctate (blue) and broad (red) marks by number of other supporting datasets from the same sample (sample-internal support). **b.** Imputation QC metrics for punctate and broad marks against the average correlation of the 10 closest datasets with the observed dataset. (sample-external support). **c-d.** Metrics against continuous (**c**) and quartiles of (**d**) sample-external support, colored by level of sample-internal support, showing that imputation metrics are dominated by the level of sample-external support. **e.** Level of sample-external support from samples with multiple experiments for samples with only one experiment (orange) or samples with multiple experiments (blue), by available mark or assay. Almost all samples with only DNase-seq have strong cross-sample support from other samples with multiple experiments (average correlation of nearest samples above 50

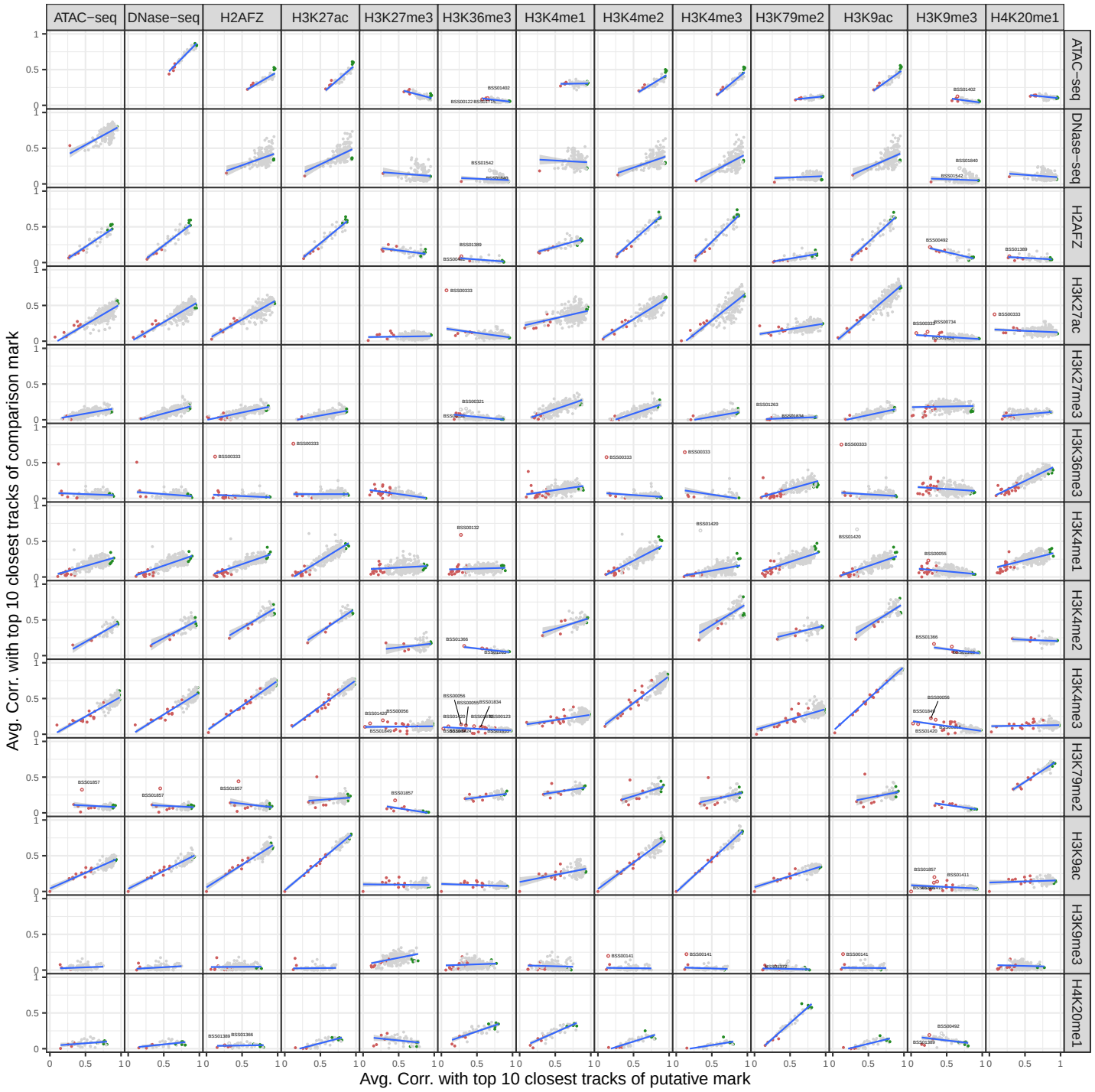


Figure S4: Imputed-observed agreement can be used to systematically flag antibody swaps. Each panel shows the average correlation with closest 10 tracks within the putative mark (each row) for each observed dataset against all other Tier 1 and 2 marks and assays. We used the overall mark-mark trend to flag outliers for visual inspection.

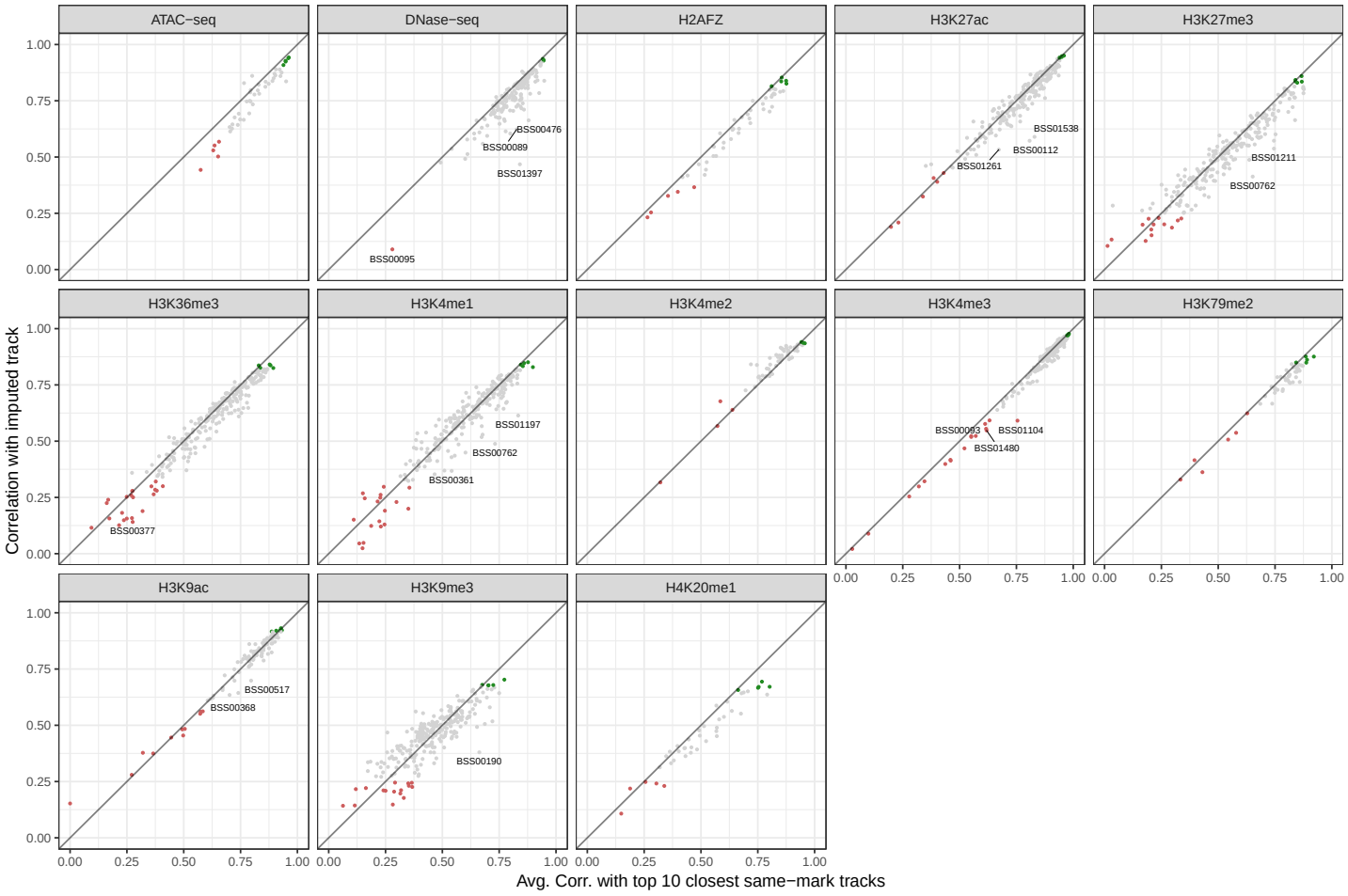


Figure S5: Imputed-observed agreement can be used to flag sample swaps. We compare the imputed-observed correlation to the average imputed-observed correlation within the top 10 closest samples for the putative mark and flagged outliers for visual inspection (after removing antibody swaps).

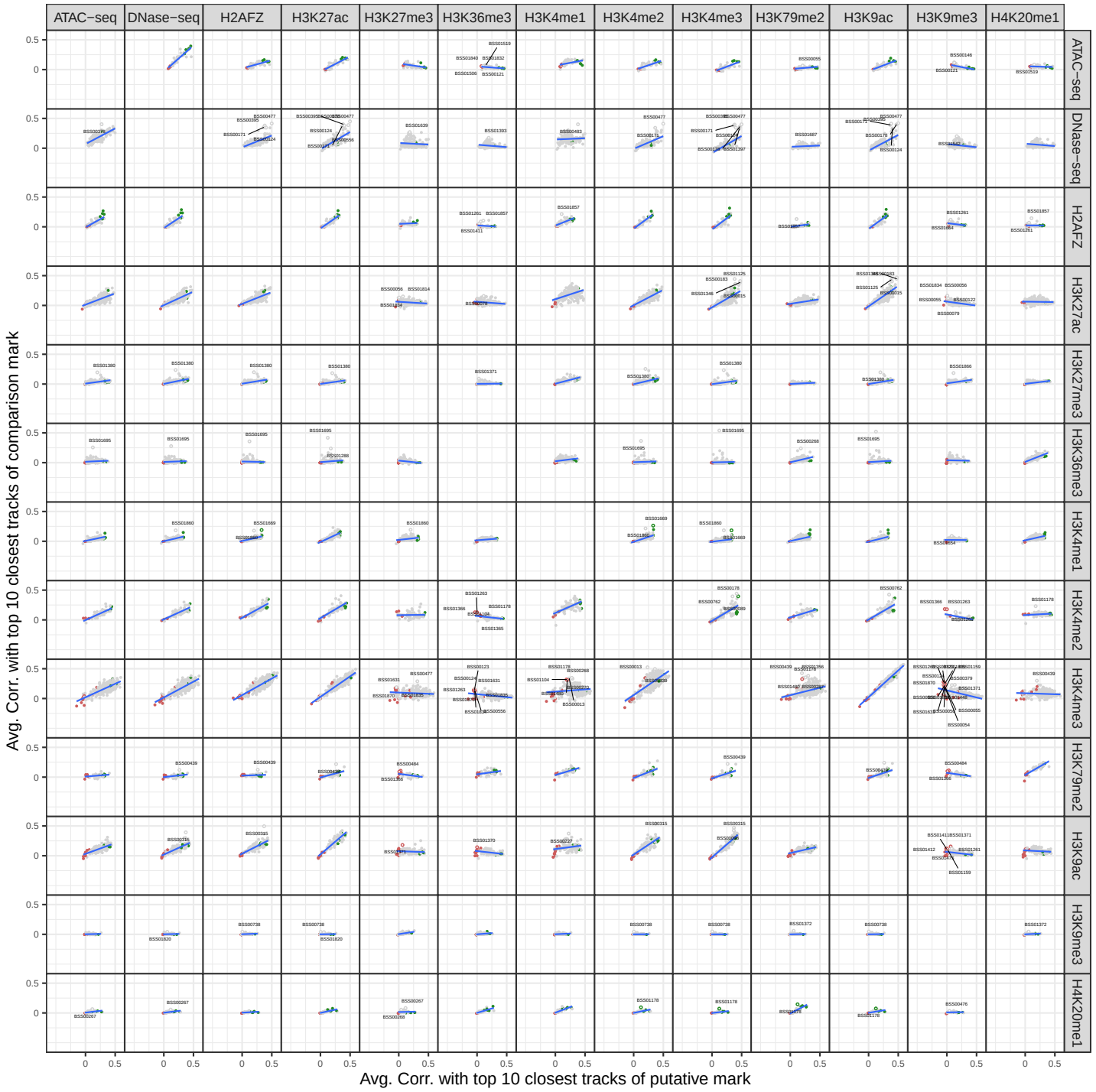


Figure S6: Imputed-observed agreement can be used to systematically flag secondary reactivities of antibodies. Each panel shows the average correlation of the difference between a pair of observed and imputed datasets with closest 10 tracks within the putative mark (each row) for each dataset against all other Tier 1 and 2 marks and assays. As with antibody swaps, we used the overall mark-mark trend to flag outliers for visual inspection.

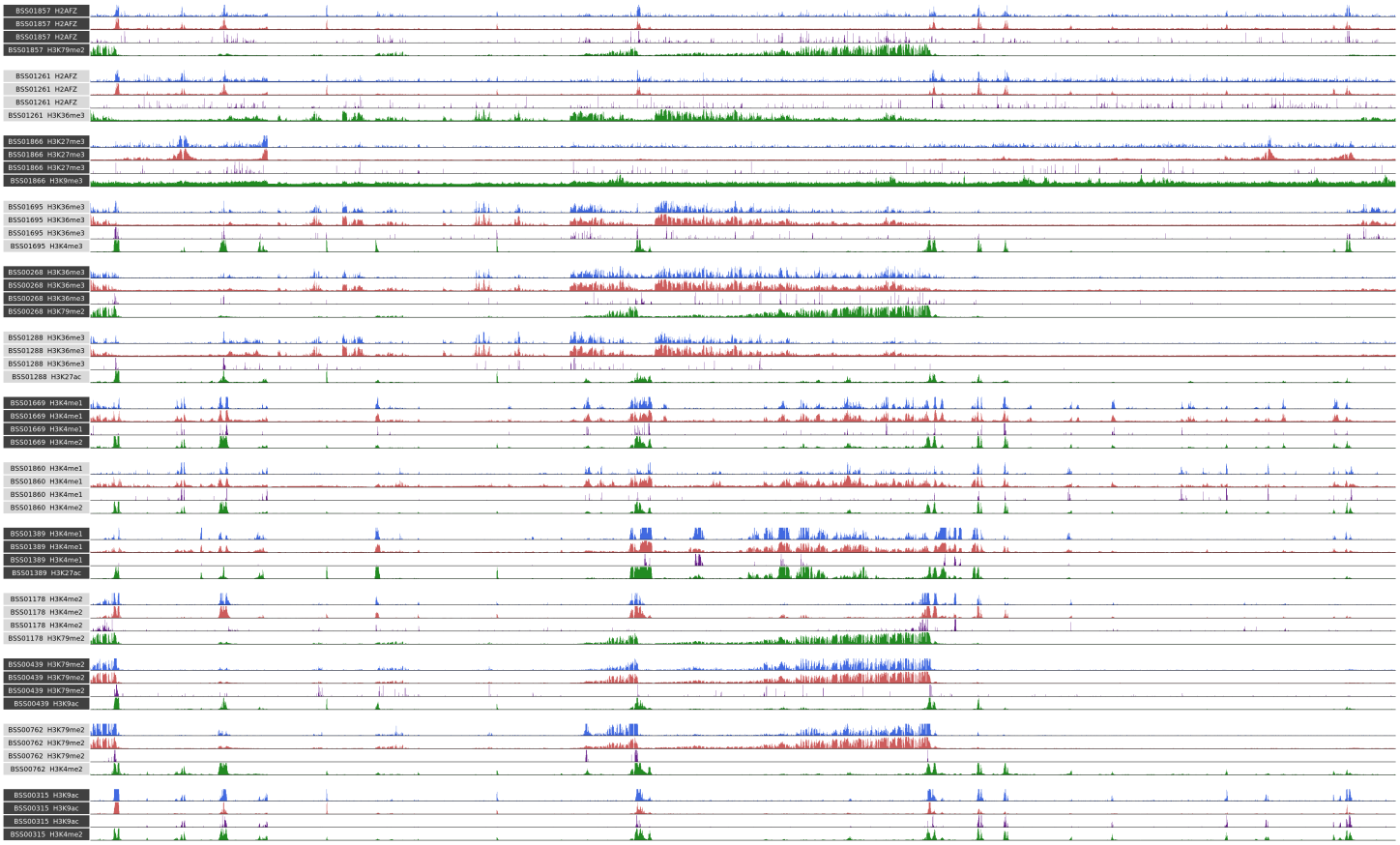


Figure S7: We can use imputation to identify antibodies with secondary reactivities. Track sets for 13 flagged samples highlight a disagreement from secondary reactivity (or sample swapping of one experiment out of multiple replicates), where the difference between observed and imputed best correlate with an external histone mark or assay. Each track set shows the Difference (purple) from Observed (blue) to Imputed (red) and the best Match (green) to the difference (a mark in the same sample) in chromosome 1 from 1.5Mb to 2Mb (chosen to show a range of diverse elements and marks).

	id	mark	(low quality tracks)								
1	BSS01365	H3K4me2	47	BSS01857	H3K9ac	93	BSS00734	H3K27ac	1	BSS00333	H3K36me3	H3K27ac
2	BSS01104	H3K4me2	48	BSS01832	H3K36me3	94	BSS01715	H3K9me3	2	BSS00333	H3K27ac	H3K36me3
3	BSS01365	H3K79me2	49	BSS01841	H3K36me3	95	BSS00325	H3K9me3	3	BSS01857	H3K9ac	H3K79me2
4	BSS00556	H3K4me3	50	BSS01424	H3K4me3	96	BSS01850	H3K27me3	4	BSS01857	H3K79me2	H3K9ac
5	BSS01104	H3K4me3	51	BSS00055	H3K4me1	97	BSS01407	H3K27me3	5	BSS00141	H3K9me3	H3K9ac
6	BSS01263	H3K4me3	52	BSS00087	H3K4me1	98	BSS00381	H3K4me1	6	BSS00132	H3K4me1	H3K36me3
7	BSS01815	ATAC-seq	53	BSS00080	H3K4me1	99	BSS00395	H3K27me3	7	BSS01420	H3K4me1	H3K4me3
8	BSS01263	H3K4me2	54	BSS00325	H3K36me3	100	BSS00381	H3K9me3				
9	BSS01475	H3K9ac	55	BSS00556	H3K36me3	101	BSS00321	H3K4me1		id	mark	potential.sampswap
10	BSS01196	H3K9ac	56	BSS01340	H3K9ac	102	BSS01424	H3K27ac	1	BSS00089	DNase-seq	BSS00339
11	BSS00093	H3K4me3	57	BSS00284	H3K36me3	103	BSS00124	H3K36me3	2	BSS00095	DNase-seq	BSS01452
12	BSS01506	ATAC-seq	58	BSS00055	H3K36me3	104	BSS01507	H3K27me3	3	BSS00476	DNase-seq	BSS01397
13	BSS01667	H3K9ac	59	BSS00281	H3K4me1	105	BSS01715	H3K36me3	4	BSS01397	DNase-seq	BSS00334
14	BSS01480	H3K4me3	60	BSS01543	H3K36me3	106	BSS01209	H3K27me3	5	BSS00112	H3K27ac	BSS01366
15	BSS00484	H3K79me2	61	BSS01835	H3K4me1	107	BSS01832	H3K9me3	6	BSS01261	H3K27ac	BSS00387
16	BSS01715	ATAC-seq	62	BSS01080	H3K36me3	108	BSS01850	H3K36me3	7	BSS01538	H3K27ac	BSS00703
17	BSS00123	H3K4me3	63	BSS00056	H3K4me3	109	BSS01411	H3K36me3	8	BSS00762	H3K27me3	BSS00547
18	BSS01834	H3K4me3	64	BSS01389	H2AFZ	110	BSS01370	H3K36me3	9	BSS01211	H3K27me3	BSS01224
19	BSS01835	H3K4me3	65	BSS00493	H3K36me3	111	BSS01366	H3K9ac	10	BSS00377	H3K36me3	BSS01715
20	BSS01366	H3K79me2	66	BSS01835	H3K36me3	112	BSS01870	H3K27me3	11	BSS00361	H3K4me1	BSS00365
21	BSS01402	ATAC-seq	67	BSS00284	H3K4me1	113	BSS01834	H3K4me1	12	BSS00762	H3K4me1	BSS01038
22	BSS01371	H3K9ac	68	BSS01389	H4K20me1	114	BSS01887	H3K36me3	13	BSS01197	H3K4me1	BSS01144
23	BSS01370	H3K9ac	69	BSS00054	H3K4me1	115	BSS01831	H3K9me3	14	BSS00093	H3K4me3	BSS00702
24	BSS00284	H3K4me3	70	BSS00122	H3K9me3	116	BSS01630	H3K4me1	15	BSS01104	H3K4me3	BSS01365
25	BSS00197	H3K9ac	71	BSS00123	H3K9me3	117	BSS01459	H3K9me3	16	BSS01480	H3K4me3	BSS00702
26	BSS01341	H3K9ac	72	BSS01850	H3K9me3	118	BSS01424	H3K9me3	17	BSS00368	H3K9ac	BSS00207
27	BSS00122	ATAC-seq	73	BSS01213	H4K20me1	119	BSS00377	H3K36me3	18	BSS00517	H3K9ac	BSS00502
28	BSS00055	H3K27ac	74	BSS00093	H3K36me3	120	BSS00159	H3K27me3	19	BSS00190	H3K9me3	BSS00196
29	BSS01870	H3K4me3	75	BSS00132	H3K4me1	121	BSS01507	H3K4me1				
30	BSS01412	H3K79me2	76	BSS00492	H2AFZ	122	BSS01837	H3K27me3		id	mark	potential.secondary
31	BSS00141	H3K4me3	77	BSS01876	H3K4me1	123	BSS01426	H3K36me3	1	BSS01857	H2AFZ	H3K79me2
32	BSS00074	H3K27ac	78	BSS01370	H3K9me3	124	BSS01837	H3K4me1	2	BSS01261	H2AFZ	H3K36me3
33	BSS00521	H3K4me3	79	BSS00439	H4K20me1	125	BSS01426	H3K4me1	3	BSS01866	H3K27me3	H3K9me3
34	BSS01857	H3K79me2	80	BSS00325	H3K4me1	126	BSS01459	H3K36me3	4	BSS01695	H3K36me3	H3K4me3
35	BSS01866	H3K27ac	81	BSS01178	H3K27me3	127	BSS00484	H4K20me1	5	BSS00268	H3K36me3	H3K79me2
36	BSS01412	H3K9ac	82	BSS00141	H3K9me3	128	BSS00531	H3K27me3	6	BSS01288	H3K36me3	H3K27ac
37	BSS01411	H3K9ac	83	BSS01849	H3K27me3	129	BSS00333	H3K36me3	7	BSS01669	H3K4me1	H3K4me2
38	BSS00478	H2AFZ	84	BSS01543	H3K9me3	130	BSS00093	H3K27me3	8	BSS01860	H3K4me1	H3K4me2
39	BSS00556	H3K79me2	85	BSS00284	H3K27me3	131	BSS01562	DNase-seq	9	BSS01389	H3K4me1	H3K27ac
40	BSS00558	H2AFZ	86	BSS00054	H3K36me3	132	BSS00095	DNase-seq	10	BSS01178	H3K4me2	H3K79me2
41	BSS01411	H3K79me2	87	BSS00493	H3K9me3	133	BSS01420	H3K4me3	11	BSS00439	H3K79me2	H3K9ac
42	BSS00477	H2AFZ	88	BSS00341	H4K20me1	134	BSS00333	H3K27ac	12	BSS00762	H3K79me2	H3K4me2
43	BSS00281	H3K27ac	89	BSS00325	H3K27me3	135	BSS01849	H3K4me1	13	BSS00315	H3K9ac	H3K4me2
44	BSS00055	H3K4me3	90	BSS00074	H3K9me3	136	BSS01519	H3K4me1				
45	BSS00378	H3K36me3	91	BSS01426	H3K9me3	137	BSS01543	H3K4me1				
46	BSS01366	H3K4me2	92	BSS00483	H3K9me3	138	BSS01849	H3K4me3				

Figure S8: Table of flagged samples. **(left)** low agreement tracks, **(right, top)** potential antibody swaps, **(right, middle)** potential sample swaps, **(right, bottom)** potential secondary antibody reactivities or single replicate or experiment swaps.

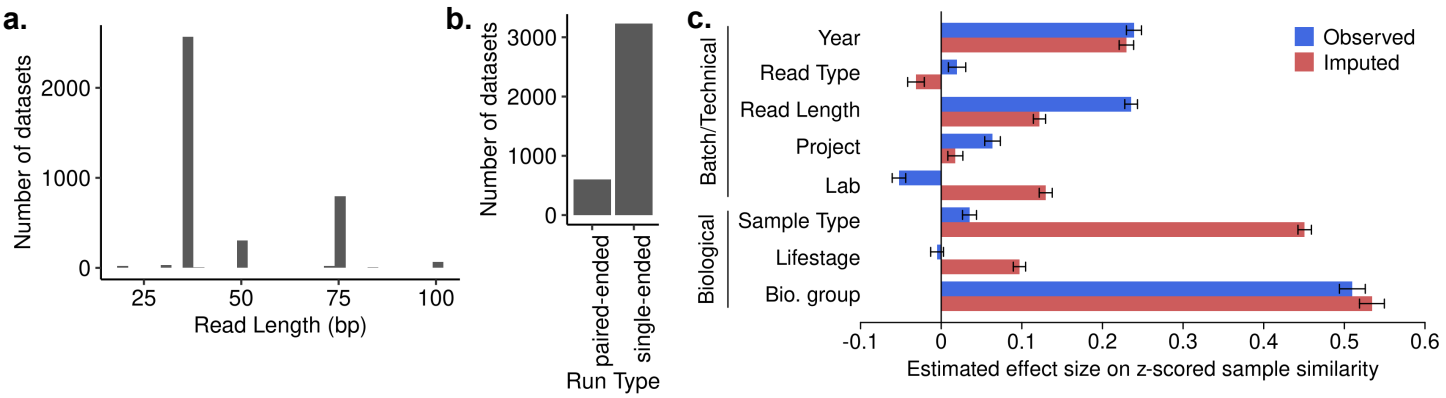


Figure S9: a. Read length distribution in observed datasets before processing. Over two-thirds of observed datasets have read-length of 36bp or lower. **b.** Distribution of sequencing run type in observed datasets. **c.** Estimated effect sizes of technical and biological covariates on the genome-wide correlation between two imputed or two observed datasets in the same mark. We regressed indicator variables for each covariate against per-mark z-scored correlations of all pair-wise combinations of either observed or imputed datasets in each mark. Imputed datasets show lower effect sizes from all technical covariates except for lab or origin and higher effect sizes for all biological covariates than observed datasets. Error bars represent two standard errors.

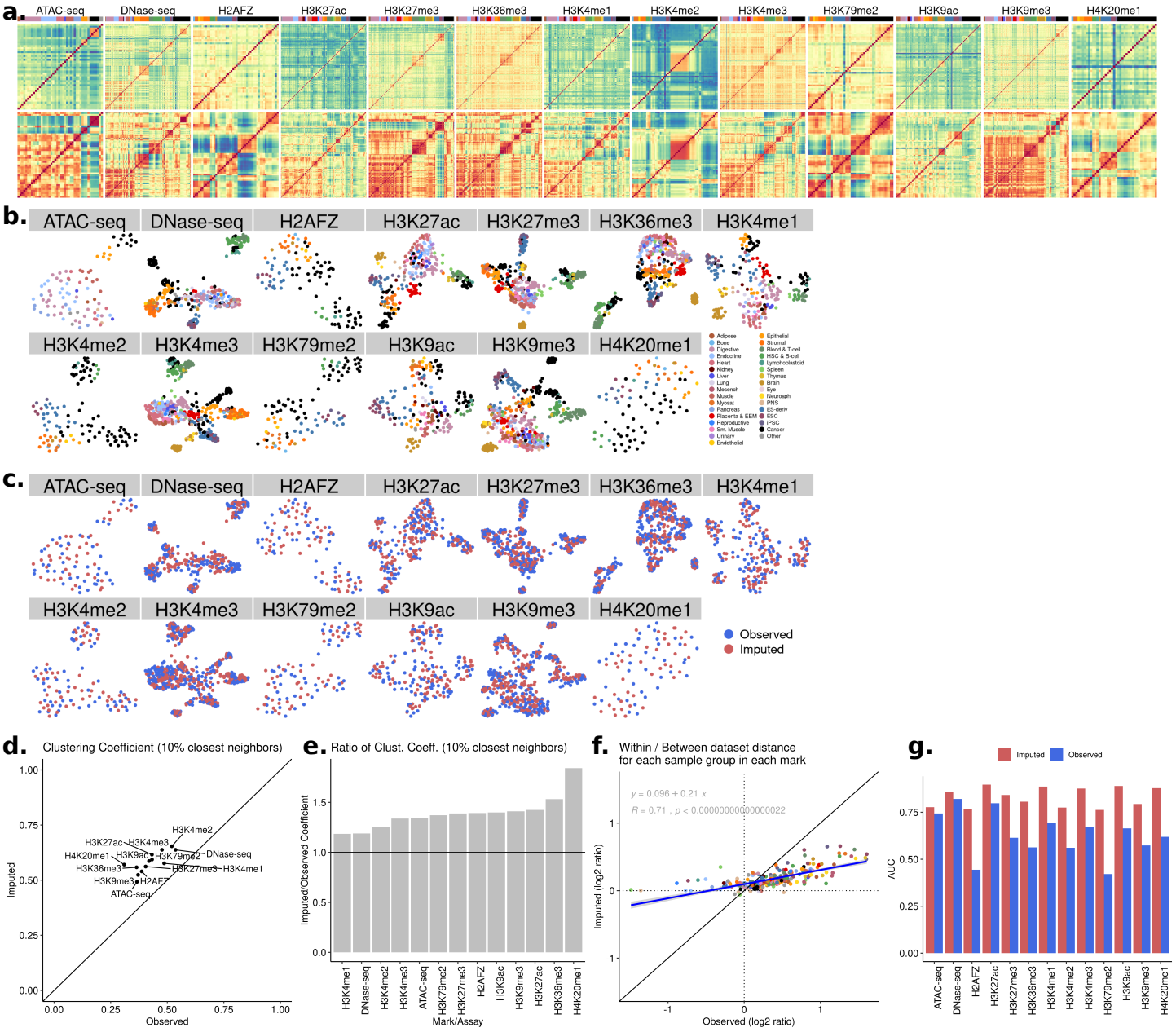


Figure S10: Data clustering and homogeneity in samples with both observed and imputed data. a. Per-mark heatmap of Spearman correlation for observed (top) and imputed (bottom) data in samples with both observed and imputed data in the mark or assay. **b,c.** Joint imputed and observed per-mark dimensionality reduction (UMAP) from Spearman correlation between all imputed and observed tracks in the subset of samples with both datatypes, colored by **b.** sample group and **c.** datatype. **d.** Per-mark observed versus imputed clustering coefficients. Clustering coefficients were computed on per-mark networks for either observed or imputed datasets constructed by connecting each dataset with its top decile of closest neighbors. **e.** Ratio of imputed to observed clustering coefficients. **f.** Ratio of within-group to between-group distance in observed versus imputed data for each sample group (colors) and each mark. Imputed and observed data show concordant ratios (Pearson $R = 0.72$, Spearman $\rho = 0.71$) **g.** AUC for predicting whether a pair of marks is in the same sample group from their pairwise distance. Imputed data outperforms observed data across all marks and assays and achieves $AUC > 0.75$ for most marks.

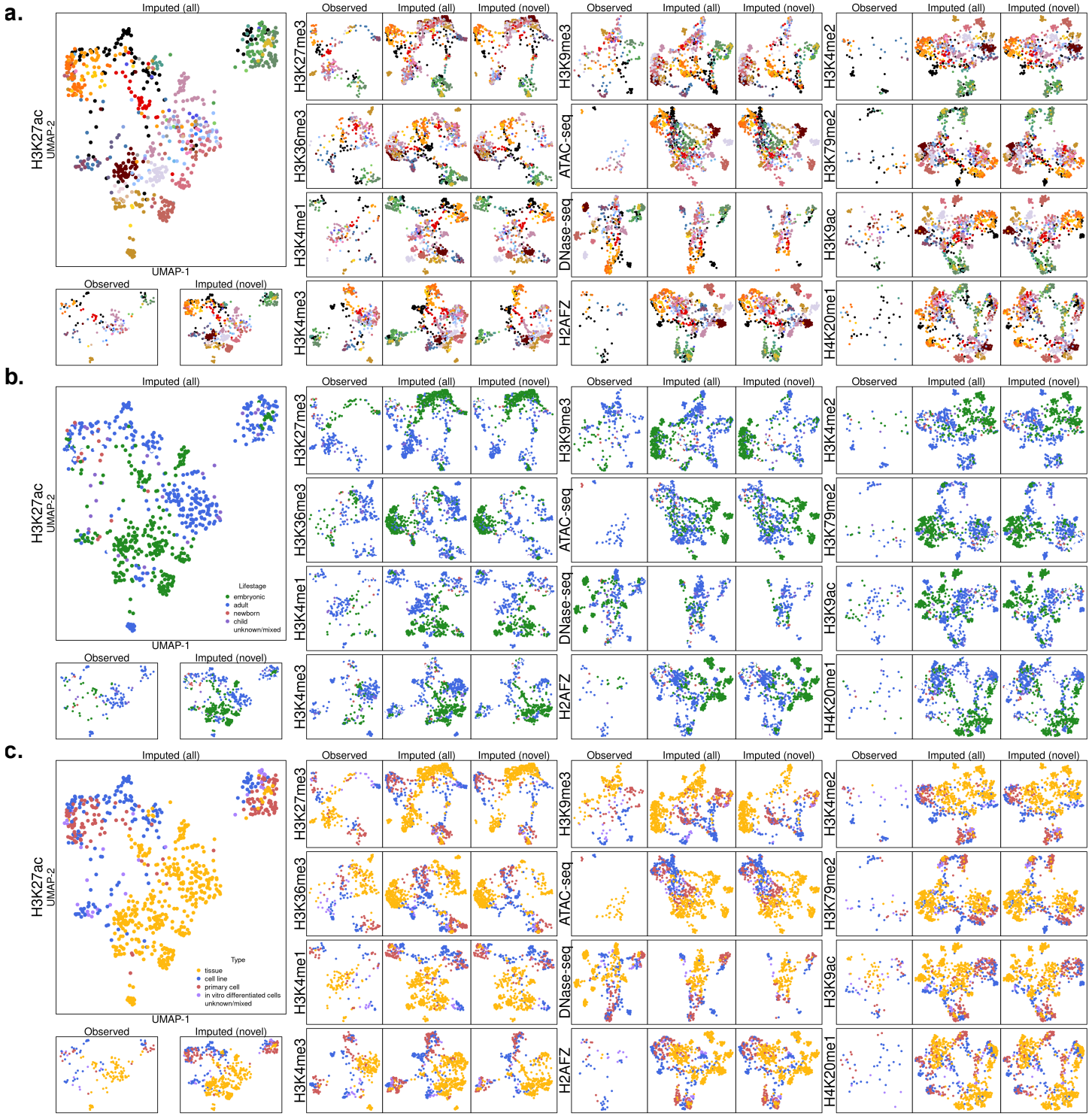


Figure S11: a-c. Joint UMAP embeddings of observed and imputed data within each Tier 1 and 2 mark/assay. Separately, observed, imputed samples, and all novel imputed tracks are plotted for each mark/assay and colored according to **a.** tissue group, **b.** biological lifestage, or **d.** sample type. Imputed UMAP highlights differences in cell types: H3K27ac clusters hematopoietic cells and tissues (green in panel a) closely, reflecting lineage, whereas H3K27me3 clusters iPSC, ESCs, and derived cells (purple/blue in panel a), reflecting differentiation stage. UMAP embedding was calculated from spearman correlation of tracks within regions marked by mark or assay relevant states within the Roadmap compendium.

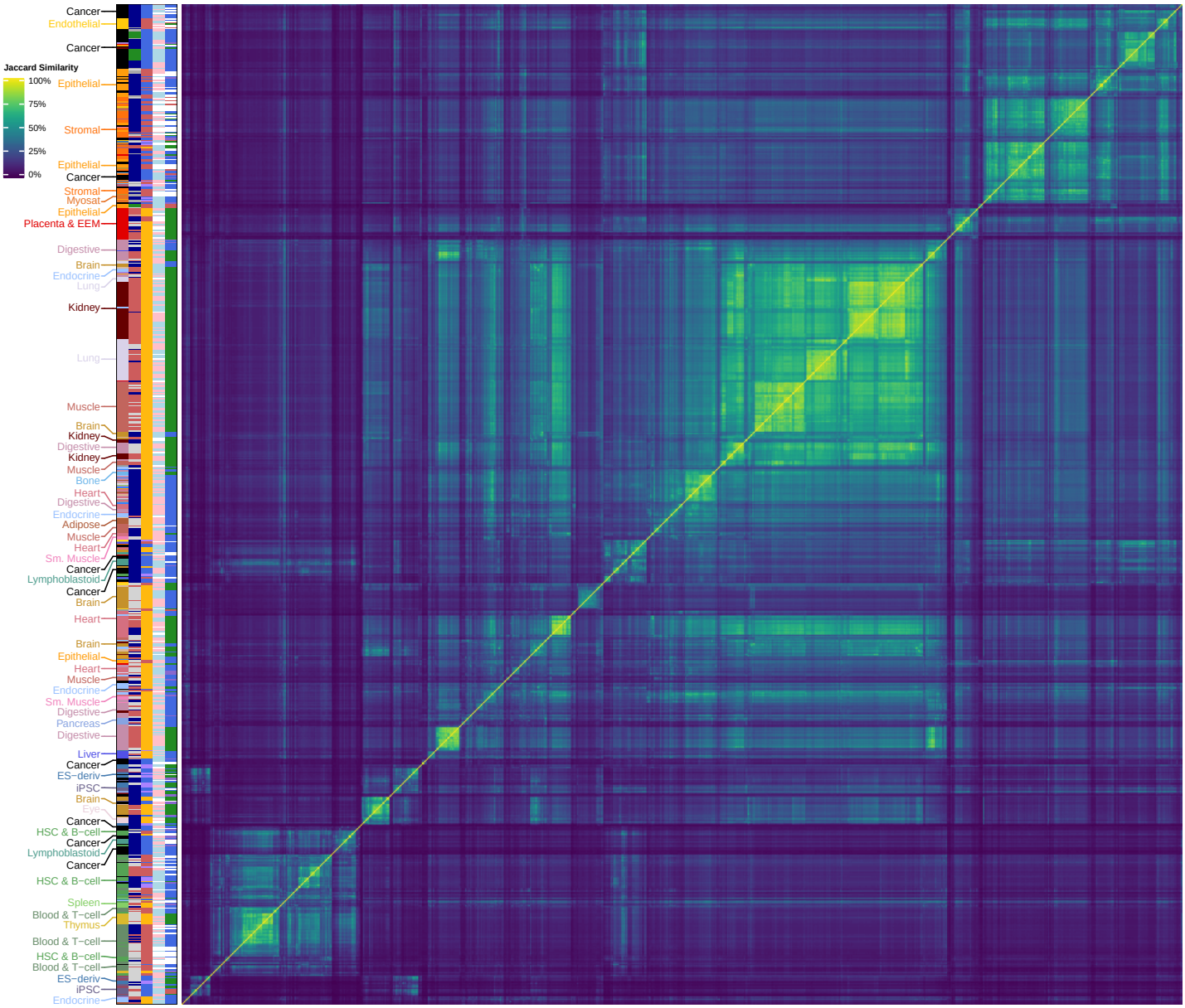


Figure S12: Jaccard similarity matrix (heatmap) across 833 epigenomes (metadata on left) from binarized enhancer activity matrix (2.1M enhancers by 833 epigenomes). Similarity matrix clustered by complete-linkage clustering. Consecutive blocks of at least six samples from the same group are labeled on the left.

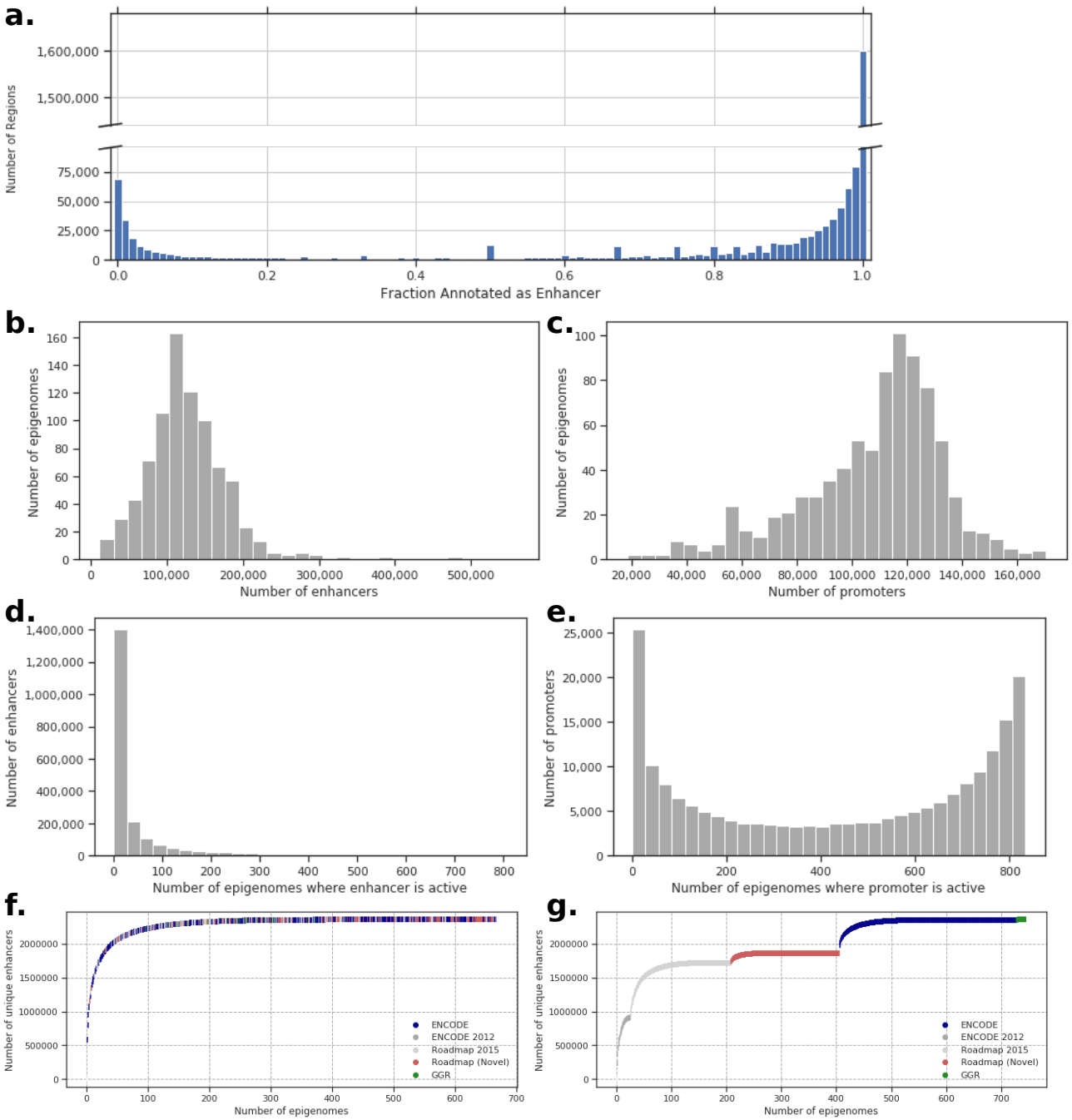


Figure S13: a. Number of DHS sites annotated as enhancers instead of promoters across 833 epigenomes. Most regions are either labeled enhancer (at least 75% of occurrences are enhancers) or promoter (at least 75% of occurrences are promoters) across all of their active occurrences. Using these cutoffs, we labeled 2,069,090 enhancers, 204,104 promoters, and 122,358 dyadic elements (neither specifically promoter or enhancer). **b,c.** Histogram of number of active enhancers (**b**) and promoters (**c**) per sample (row-margins of binary activity matrix). **d,e.** Histogram of the number of samples for which each enhancer (**d**) or promoter (**e**) is an active enhancer (column-margins of binary activity matrix) **f.** Rarefaction curve for enhancer recovery for all enhancer and dyadic elements (2.3M total) across 833 samples (points, colored by project of origin). Curve was created by iteratively adding the sample contributing the most novel active elements until all 2.3M elements were accounted for. **g.** Rarefaction curve for enhancer recovery, shown in order of project completion, for all enhancer and dyadic elements (2.3M total) across 833 samples (points, colored by project of origin). Curve was created by iteratively adding the sample contributing the most novel active elements until all 2.3M elements were accounted for. Samples were considered in order of project publication/completion, only taking samples from the next project when the current project did not contribute any more enhancers.

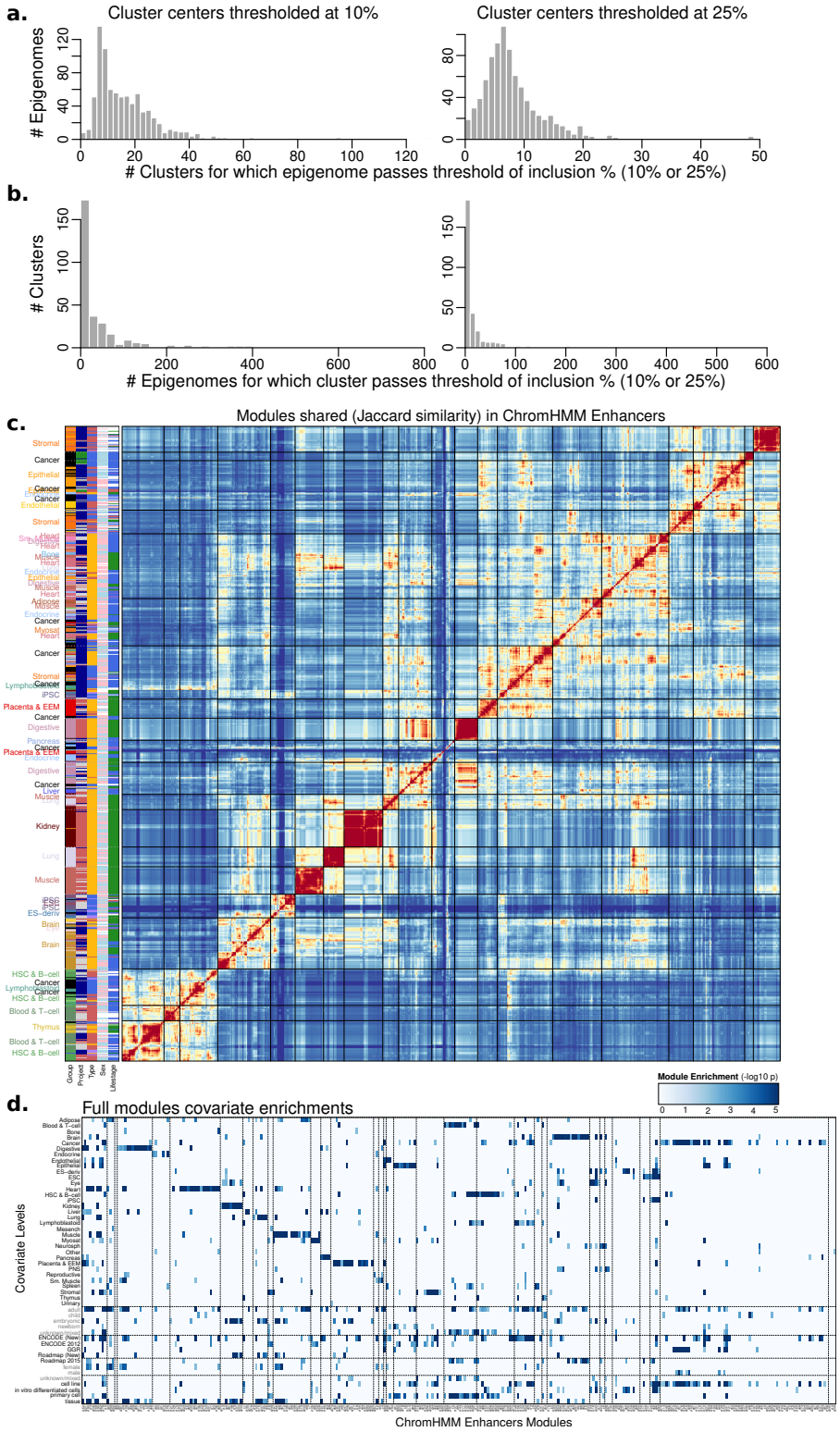


Figure S14: a,b. Module inclusion distributions according to two different module inclusion cutoffs of 10% and 25% (columns). **a.** Number of modules (N=300) for each of 833 epigenomes with module inclusion of at least 10% or 25% (top). **b.** Number of epigenomes (N=833) for each of 300 modules at the same inclusion cutoffs. **c.** Sample similarity (heatmap) across 833 epigenomes by their number of shared modules.(jaccard similarity, intersection over union of modules of each pair of epigenomes). Similarity matrix clustered by Ward's method. Consecutive blocks of at least six samples from the same group are labeled on the left. **d.** Full module enrichments across main metadata facets of group, project, type, sex, and lifestage, for which the reduced version is shown as a panel in Figure 2a. Significance assessed according to hypergeometric test on the module centers matrix with module inclusion of at least 25%.

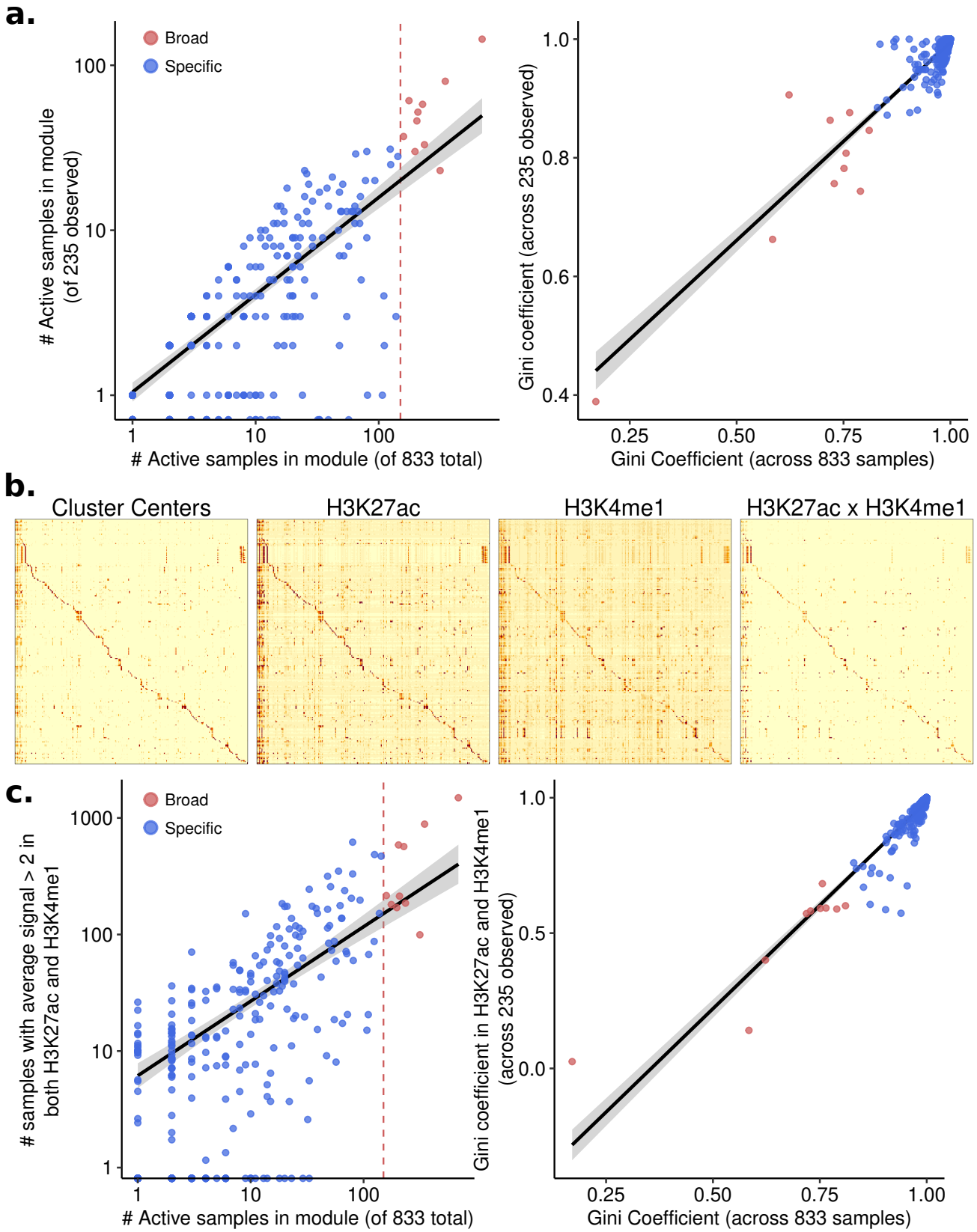


Figure S15: Observed data validation of broad and specific modules. a. Validation with 235 observed H3K27ac datasets. Number of samples (left) and Gini coefficient (right) per module in the full data versus the observed-only H3K27ac data. Broad modules are defined as modules with over 150 actie samples in the full data (dashed line) and labeled in red. Despite the sample composition differences in observed vs. full data, the fraction of active samples is quite consistent between the datasets (left, R^2=0.802, right R^2=0.82). For the 10 broad modules (red) from the full data, all were active in at least 9.7

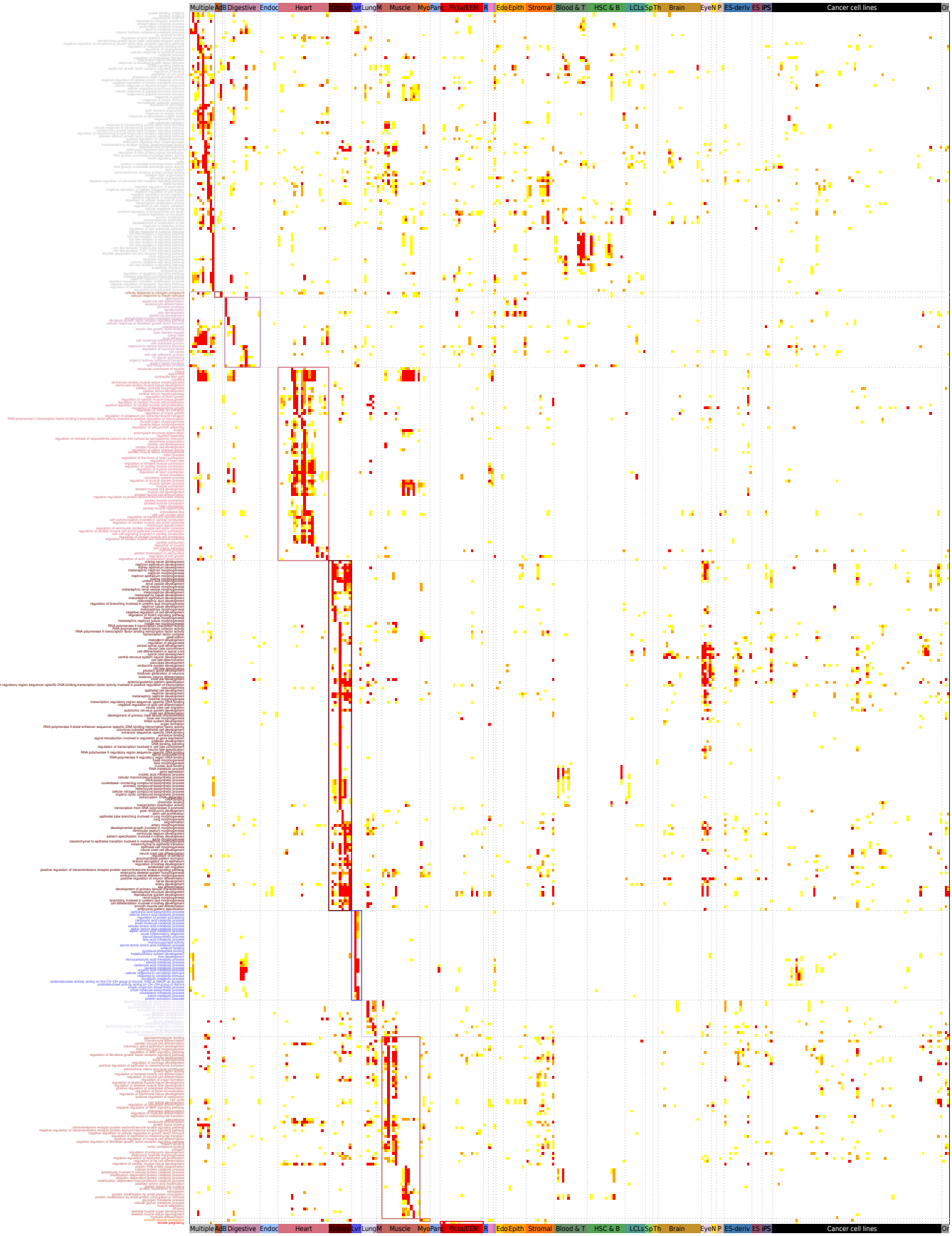


Figure S16: All 865 module-specific GO terms (BP, MF, CC), including all terms enriched in less than 10% of modules and with a maximum enrichment of at least $-\log_{10} p > 4$. Full version of Figure 2b.

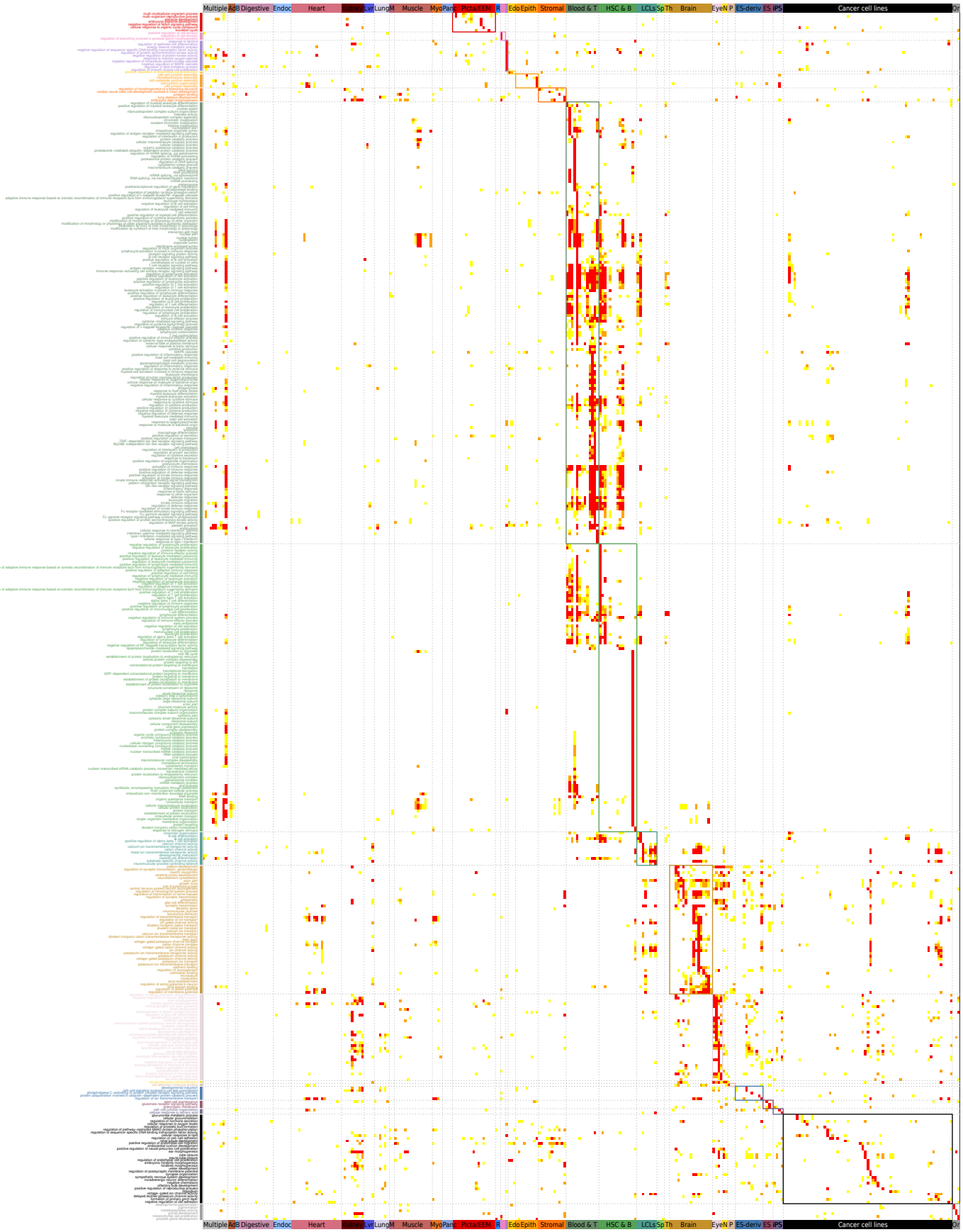


Figure S16: (continued)

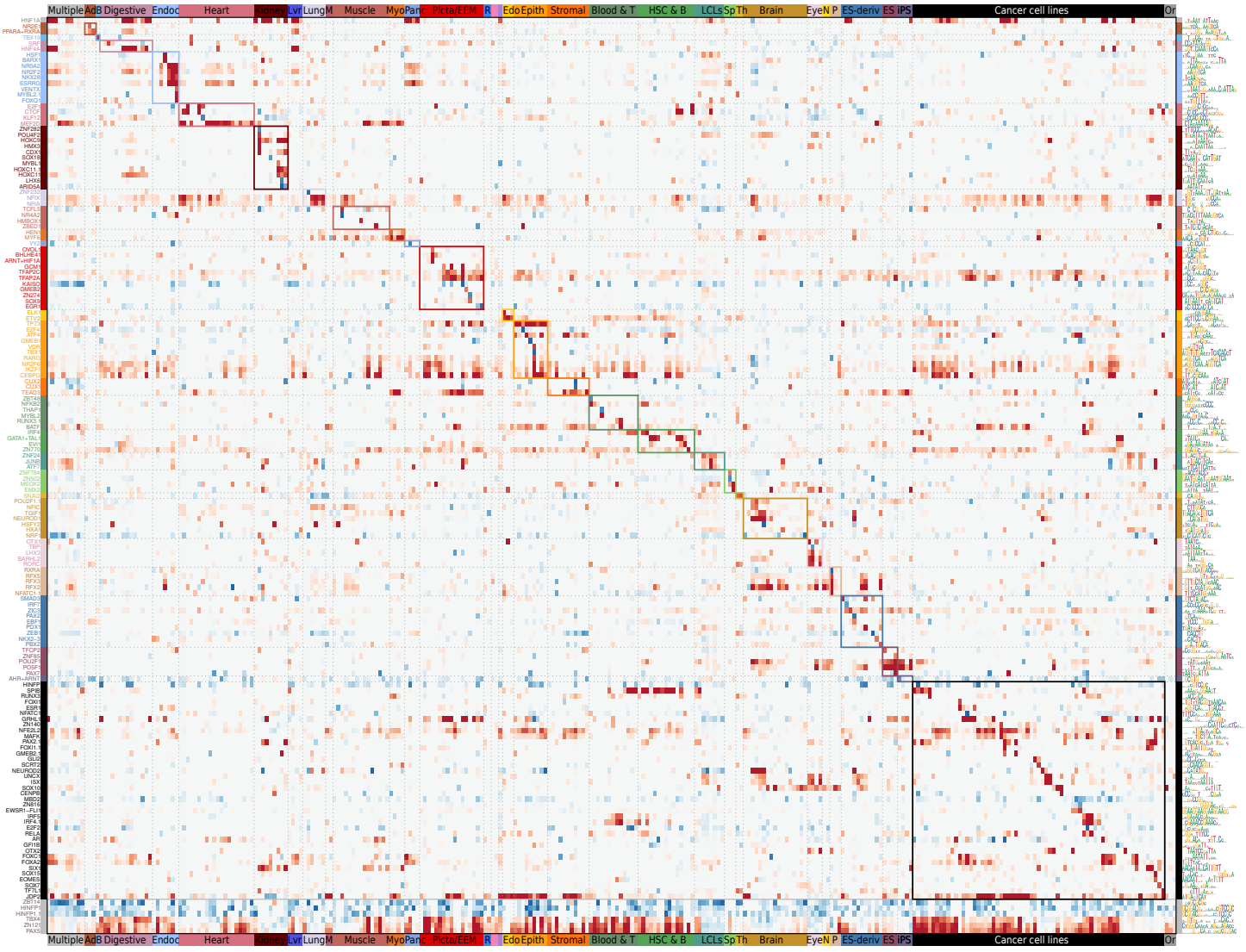


Figure S17: Full motif enrichments for 160 motif families with enrichments with log2FC >= 1 on modules (Figure 2c).

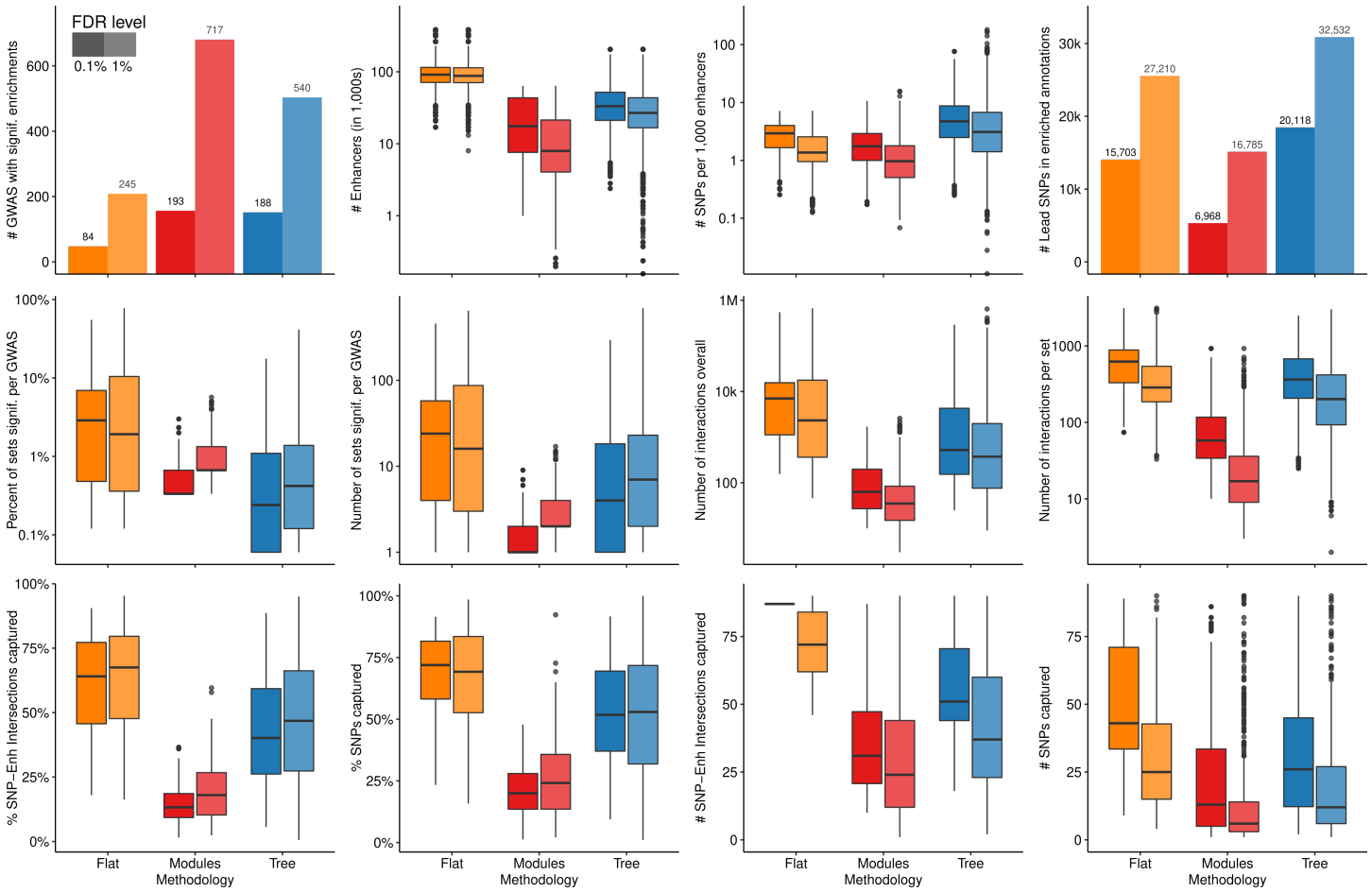


Figure S18: Extended method validation figures comparing epigenomic GWAS enrichments using different methodologies (x-axis) for three FDR cutoffs (shades). First and last figures from top row are shown as Extended Data Fig. 7e.

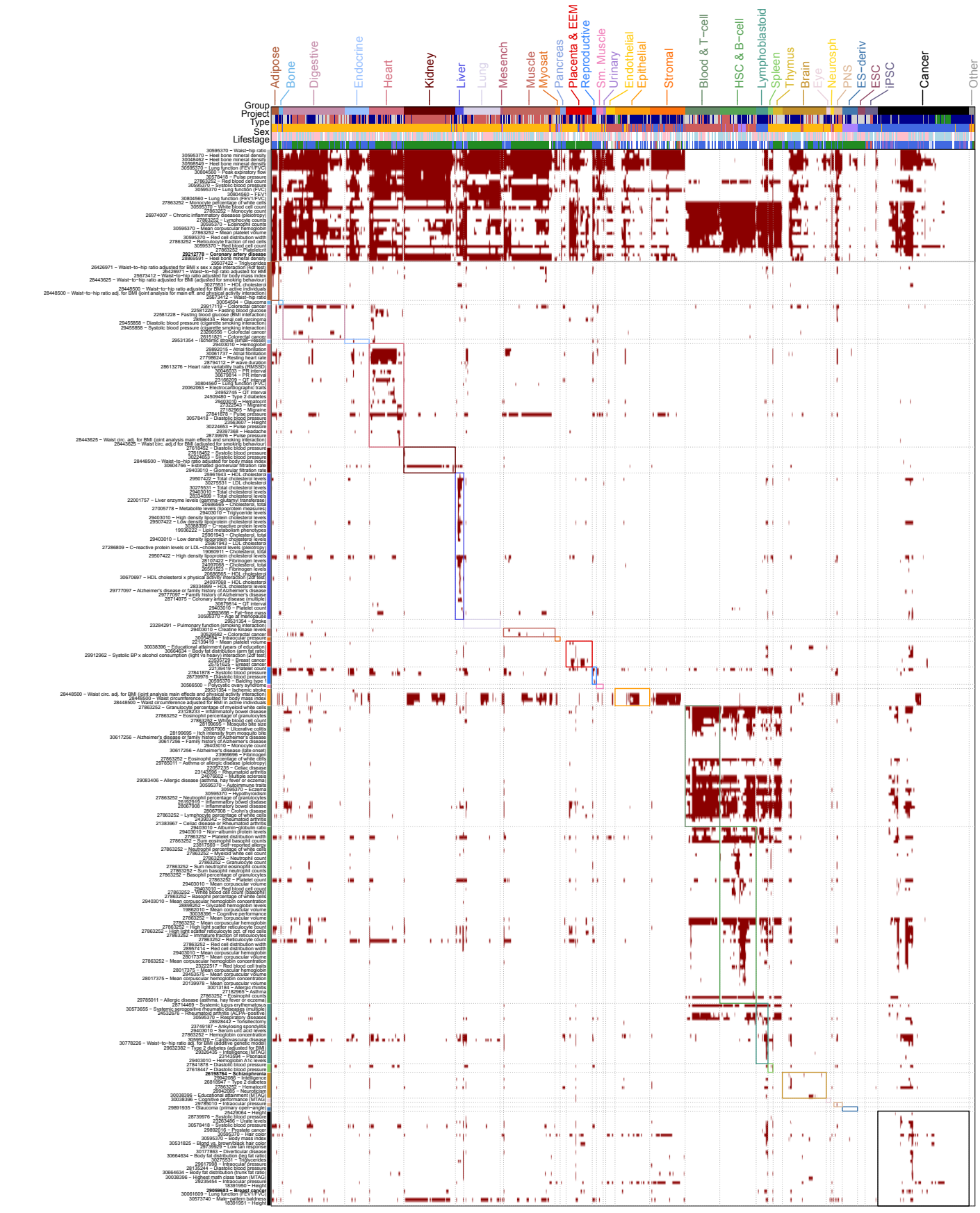


Figure S19: All epigenome trait enrichments at FDR $< 1\%$, for 245 traits (rows) and 833 epigenomes (columns)

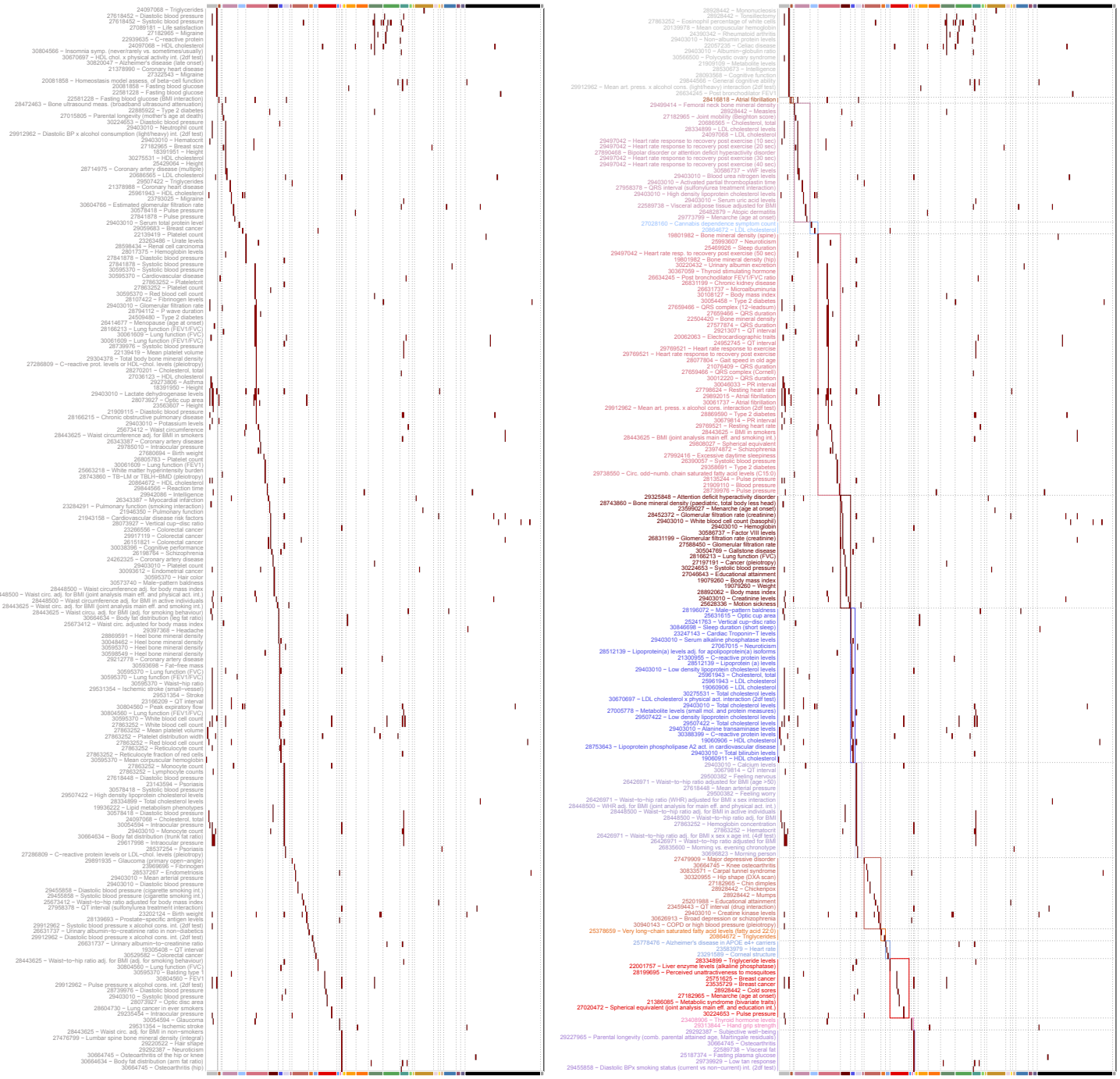


Figure S20: All module trait enrichments at FDR $< 1\%$, for 717 traits (rows) and 300 modules (columns). Modules are ordered as in Figure 2a.

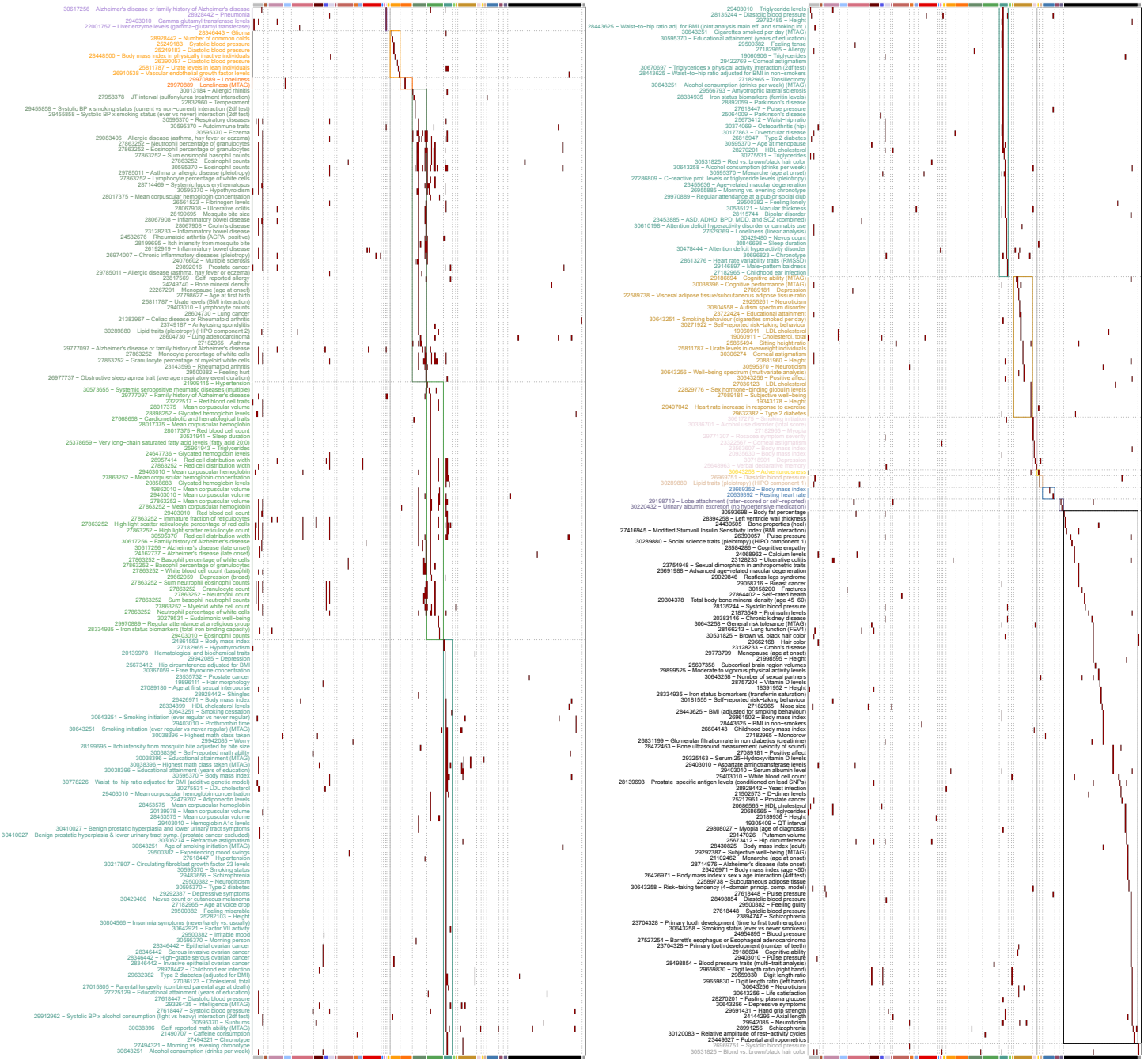


Figure S20: (continued)

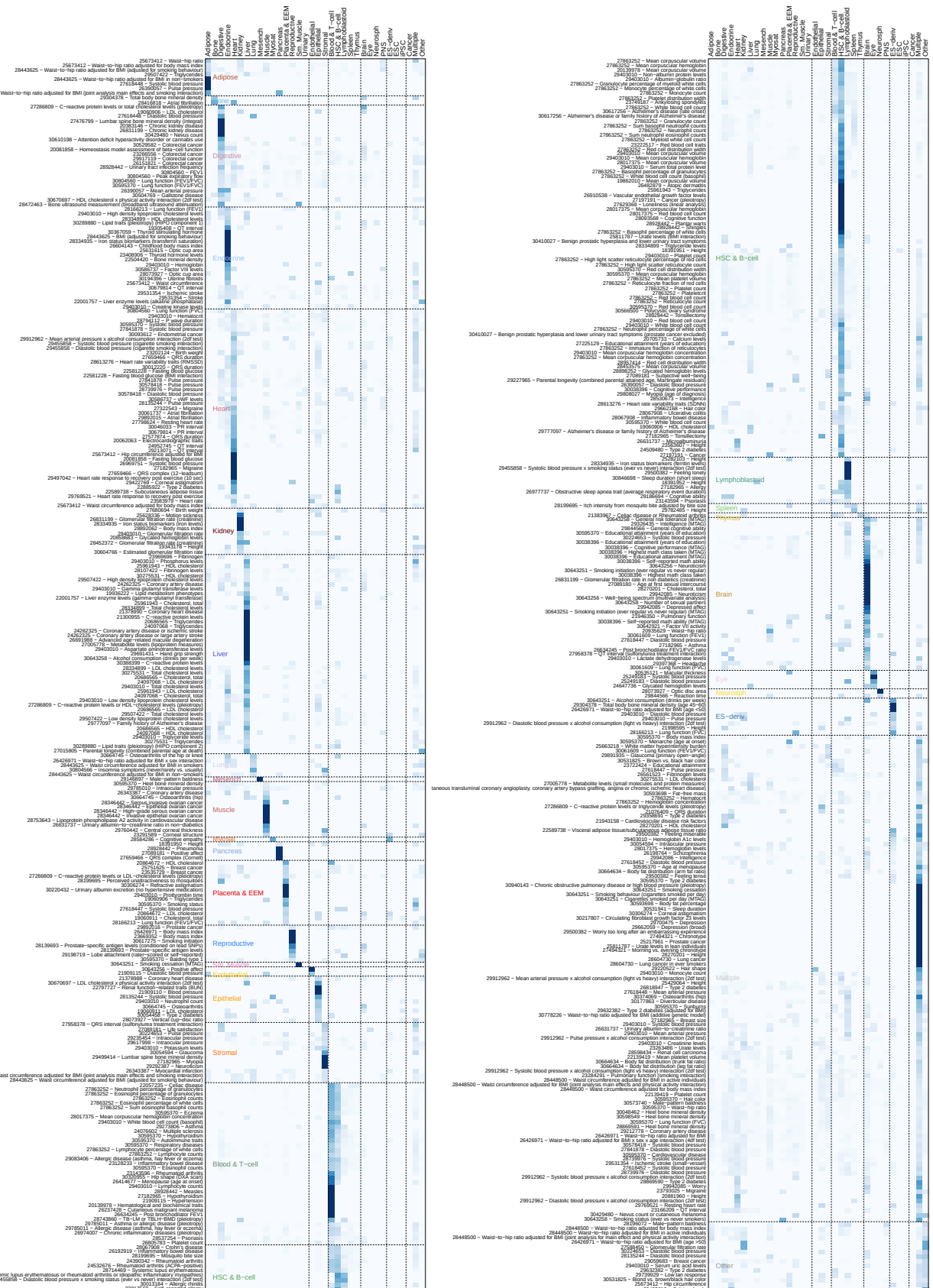


Figure S21: Overall tissue-level prioritization of 540 traits at FDR $< 1\%$. Heatmap represents trait (rows) vs. tissue matrix and is split for visibility. Traits are diagonalized according to their top tissue enrichment, and values are the trait-normalized and tissue aggregated $-\log_{10}$p-values.

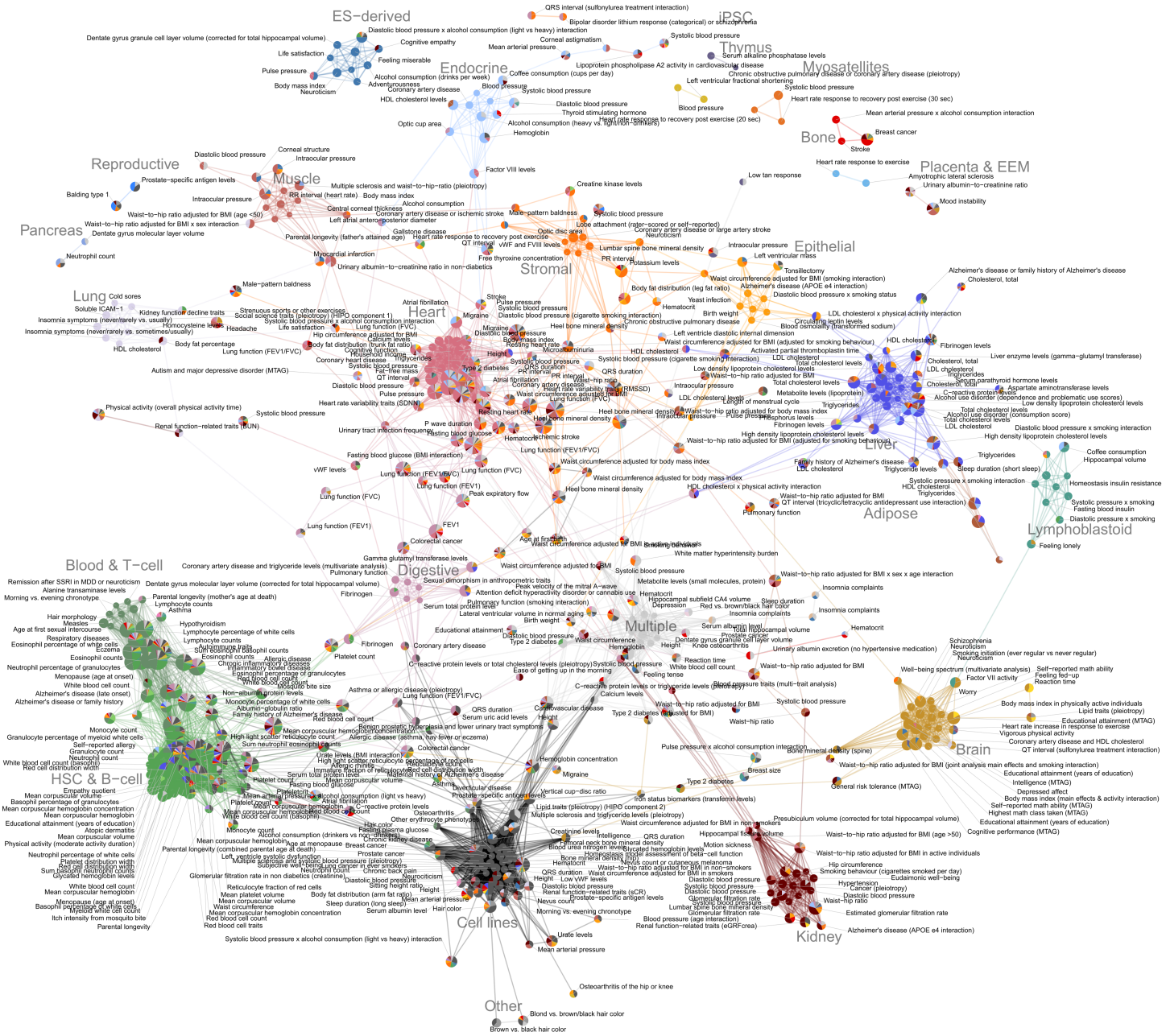


Figure S22: Trait-trait network (as Figure 5) across 511 traits by similarity of epigenetic enrichments (cosine sim. ≥ 0.75), laid out using the Fruchterman-Reingold algorithm. Traits (nodes) are colored by contributing groups (pie chart by fraction of -log10p, size by maximal -log10p) and interactions (edges) by the group with maximal dot product of enrichments between two traits. All 511 traits labeled.

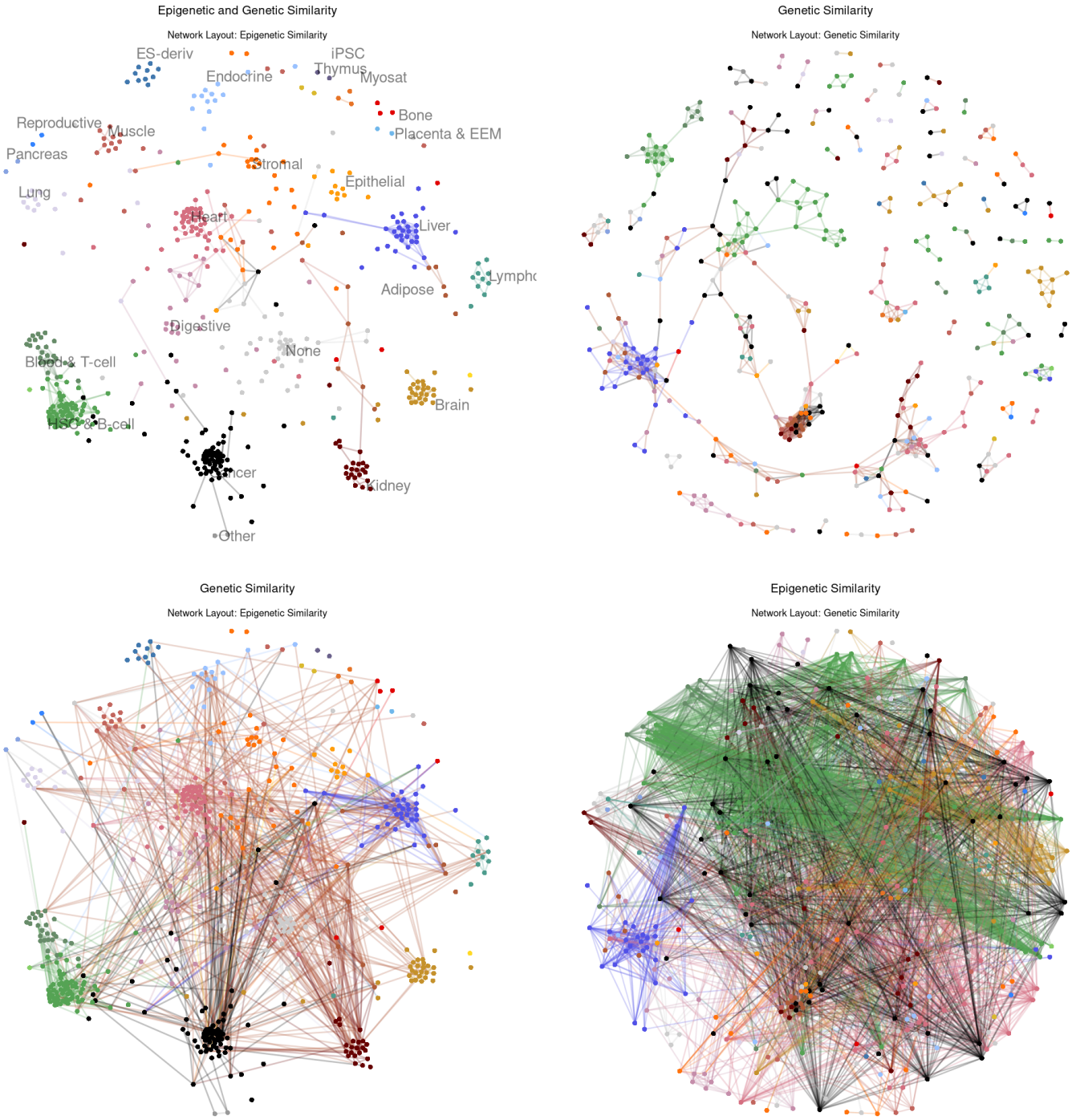


Figure S23: Comparison networks with genetics and epigenetics. (top left) Edges with both high epigenetic similarity and any genetic overlap on epigenetic similarity layout. (bottom left) All trait pairs with genetic overlap ($> 5\%$ jaccard similarity of lead SNPs overlapping when binned into 10k bp bins starting from the start of each chromosome, network using epigenetic layout. (top right) Network of trait pairs with any genetic overlap laid out by genetics. (bottom right) All trait pairs with high epigenetic similarity on the genetic layout network

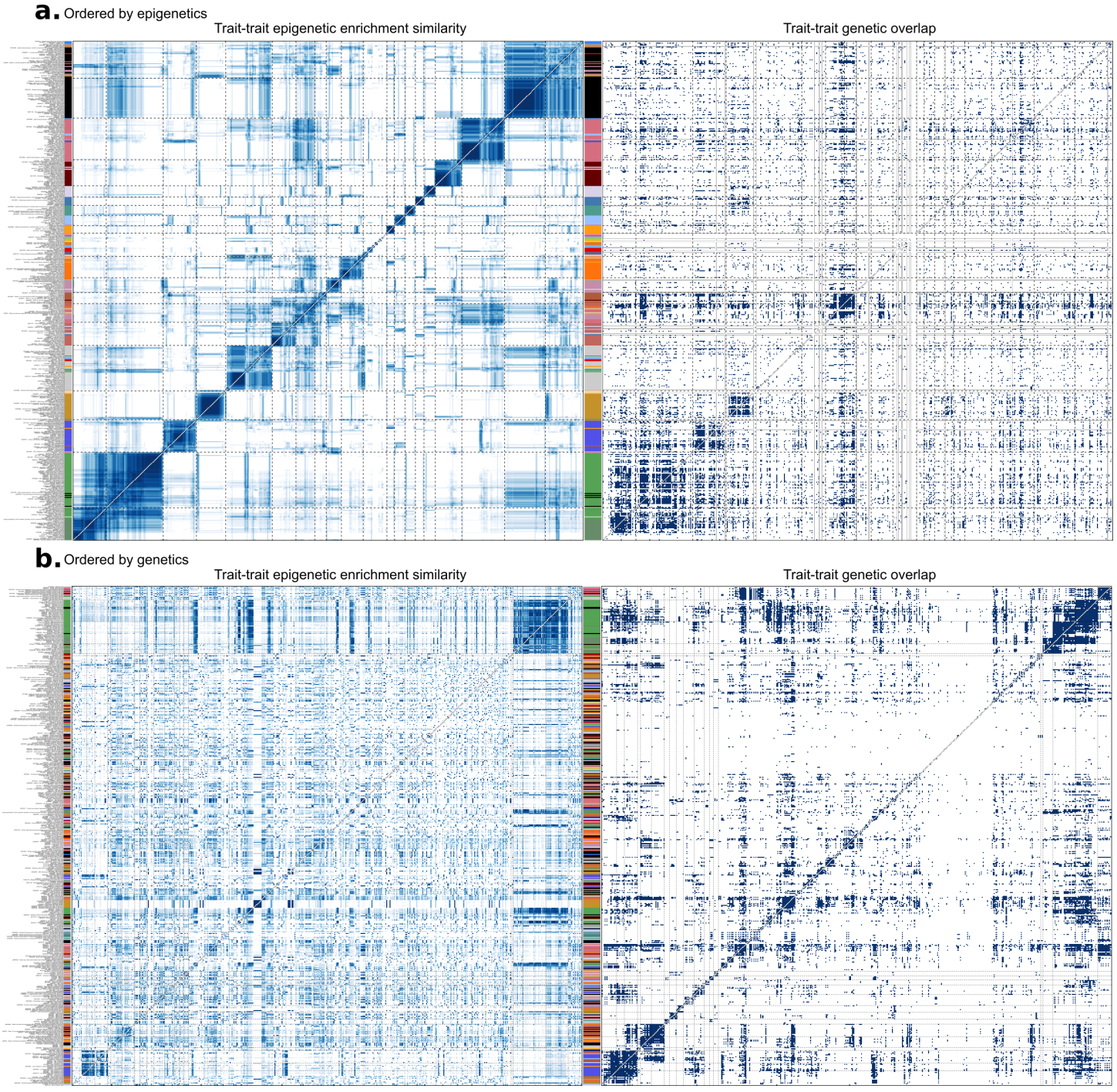


Figure S24: a. Trait-trait similarity matrix by cosine similarity of epigenetic enrichments (left) and by 0/1 genetic similarity (defined as $> 5\%$ jaccard similarity of lead SNPs overlapping when binned into 10k bp bins starting from the start of each chromosome). Matrices are ordered by hierarchical clustering according to Ward's method on the epigenetic matrix. **b.** Epigenetic similarity (left) and genetic similarity (right) matrices, as above. Matrices ordered by hierarchical clustering according to Ward's method on the genetic similarity matrix.

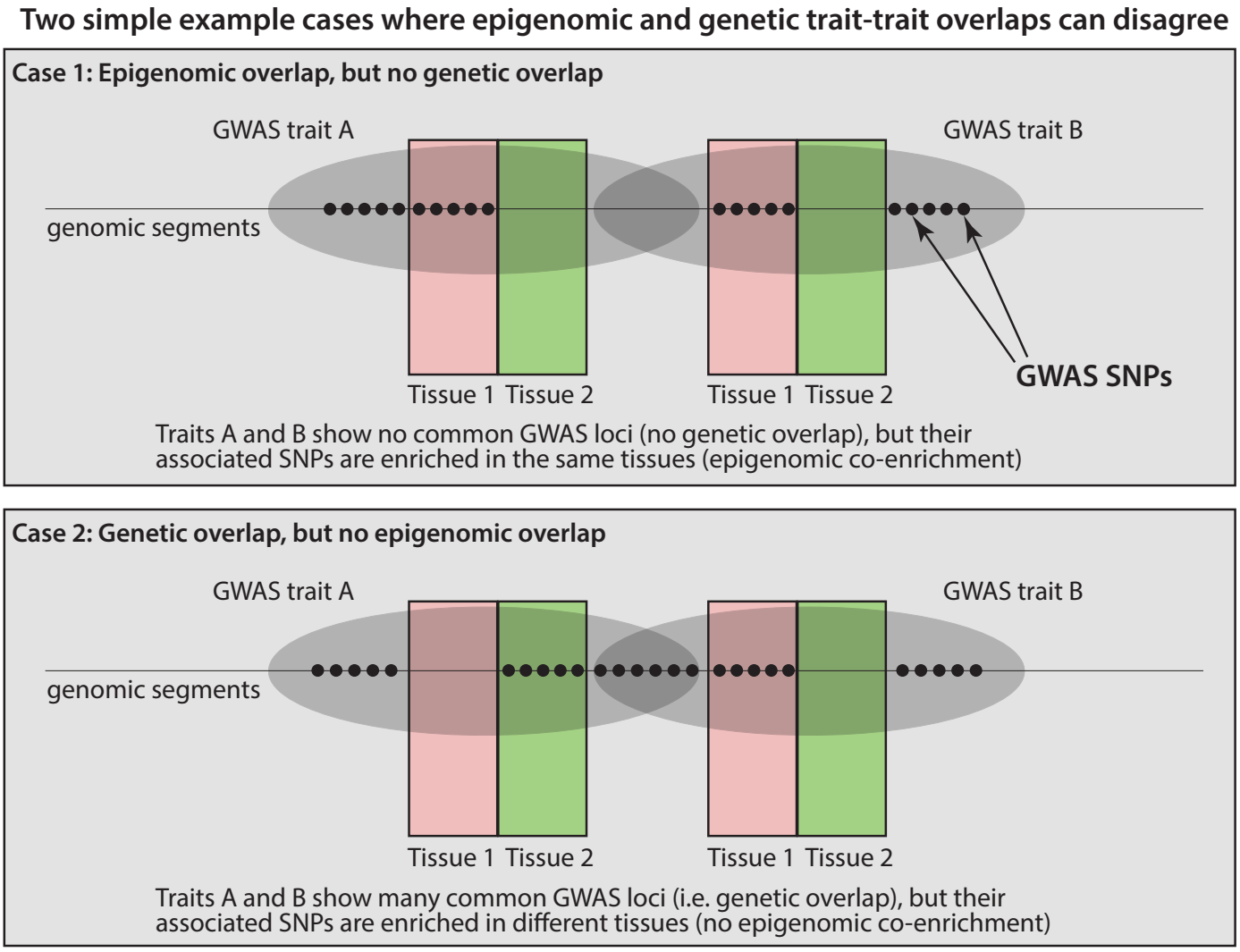


Figure S25: Two example cases where the epigenetic and the genetic trait-trait links may not agree.

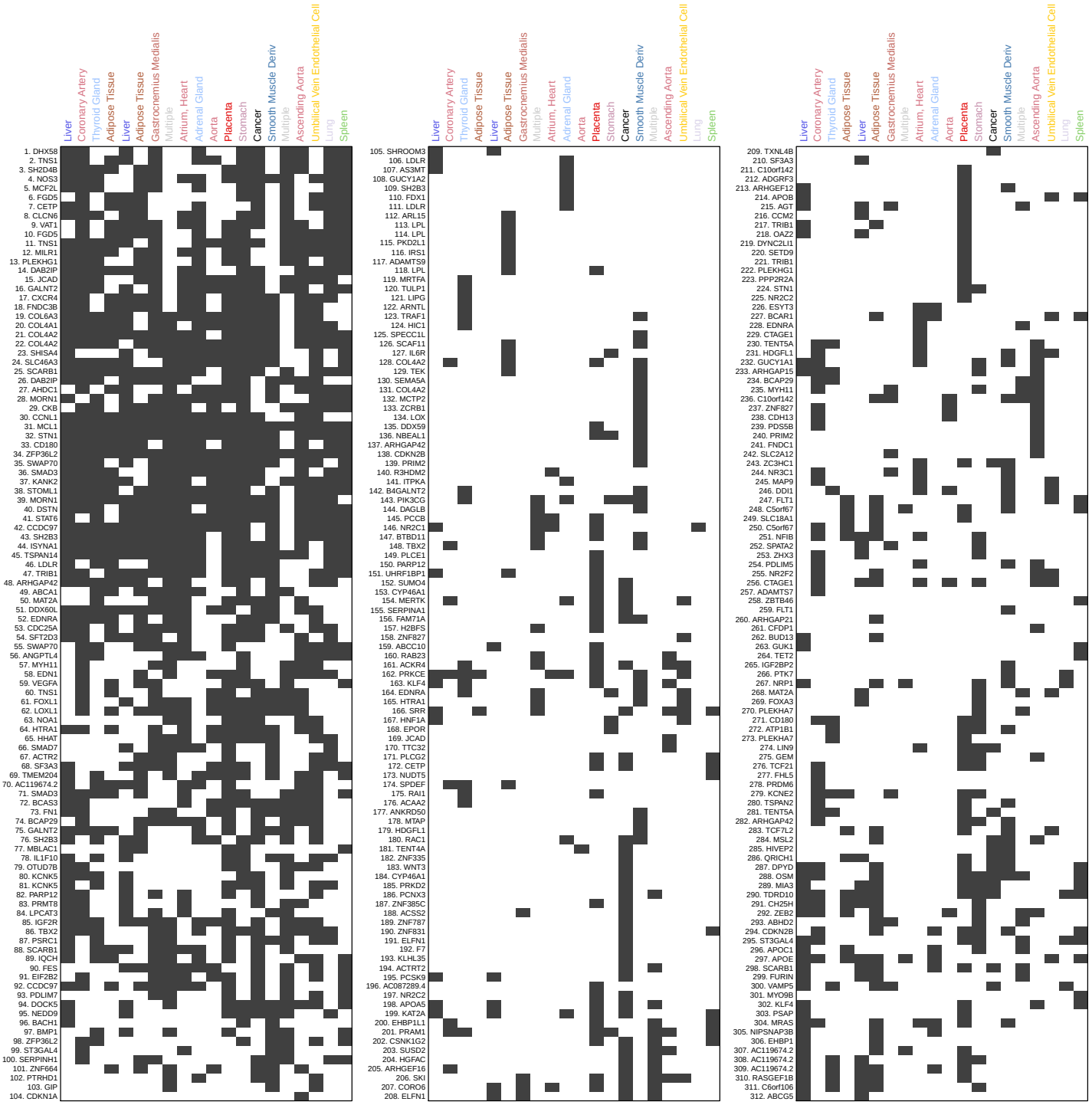


Figure S26: Loci of lead SNPs for CAD in top 20 significantly enriched nodes. Matrix is split in three and shows 312 SNPs against 20 nodes, by presence (black) or absence (white) in the node's enhancers. Loci are ordered by clustering their jaccard similarity across nodes using the Ward method. Each SNP is annotated with its nearest protein-coding gene.

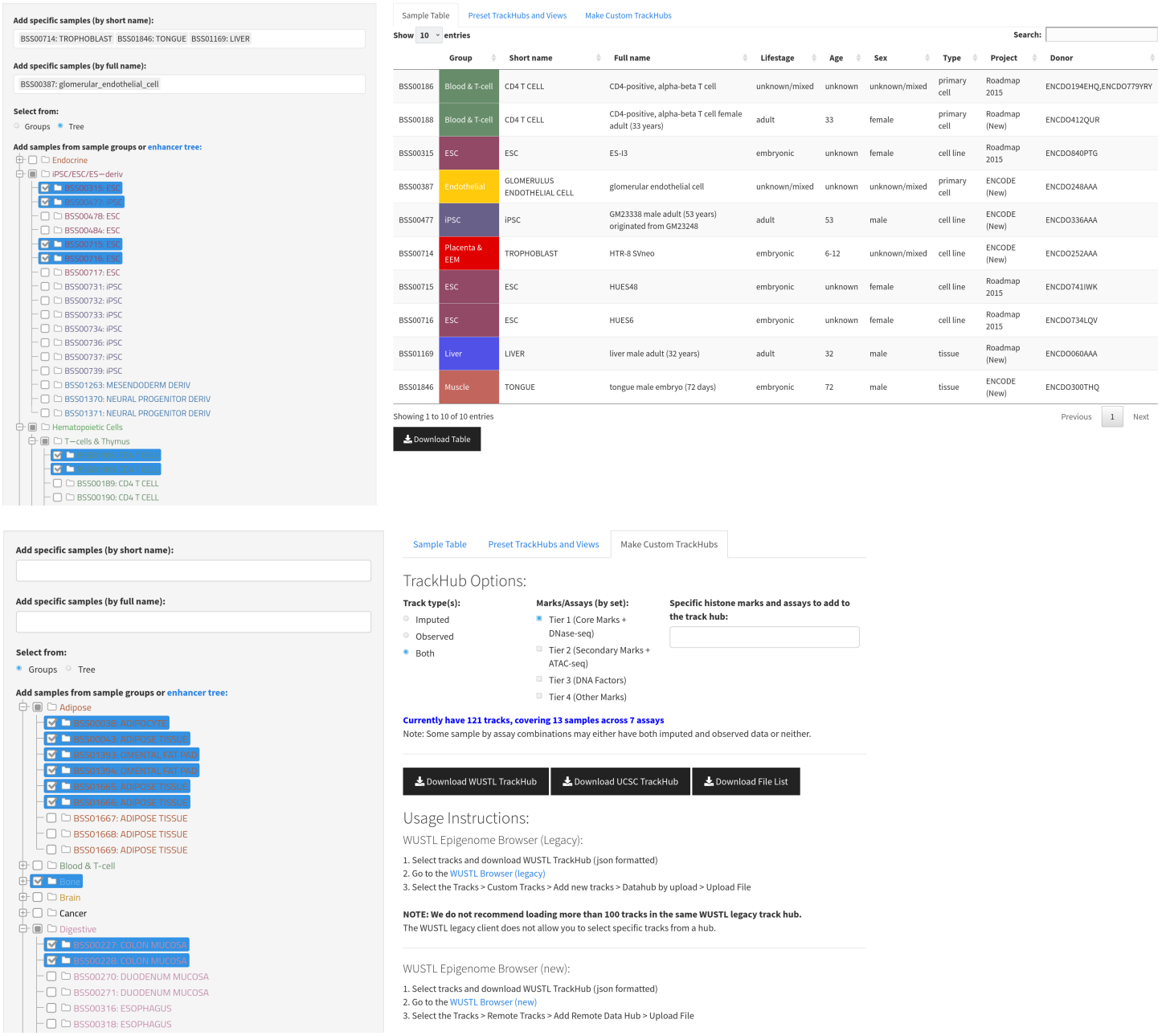


Figure S27: a. Example screenshot from interactive browser showing dataset selection by groups and by enhancer tree, metadata, and custom trackhub creation.

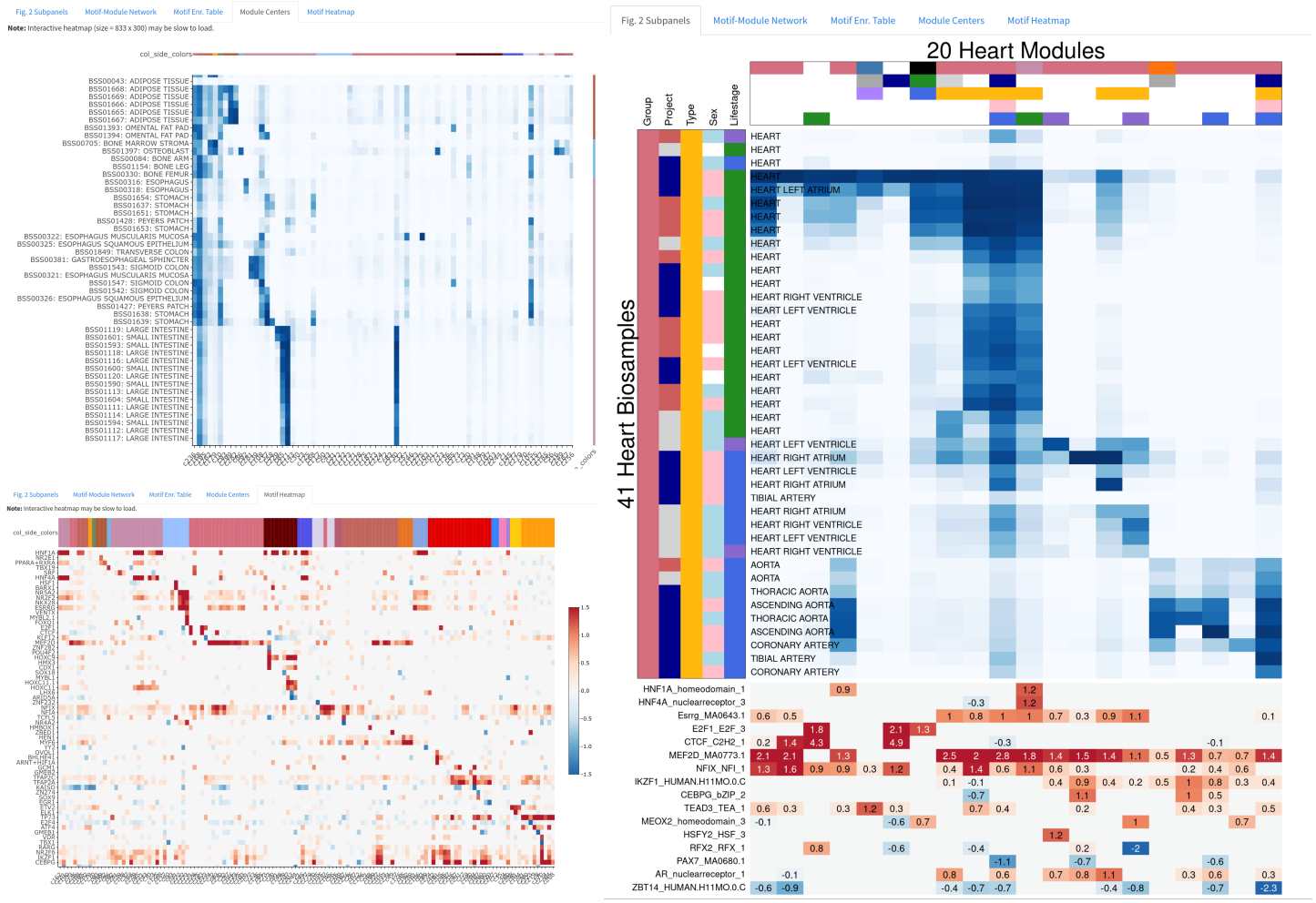


Fig. 2 Subpanels | Motif-Module Network | Motif Enr. Table | Module Centers | Motif Heatmap

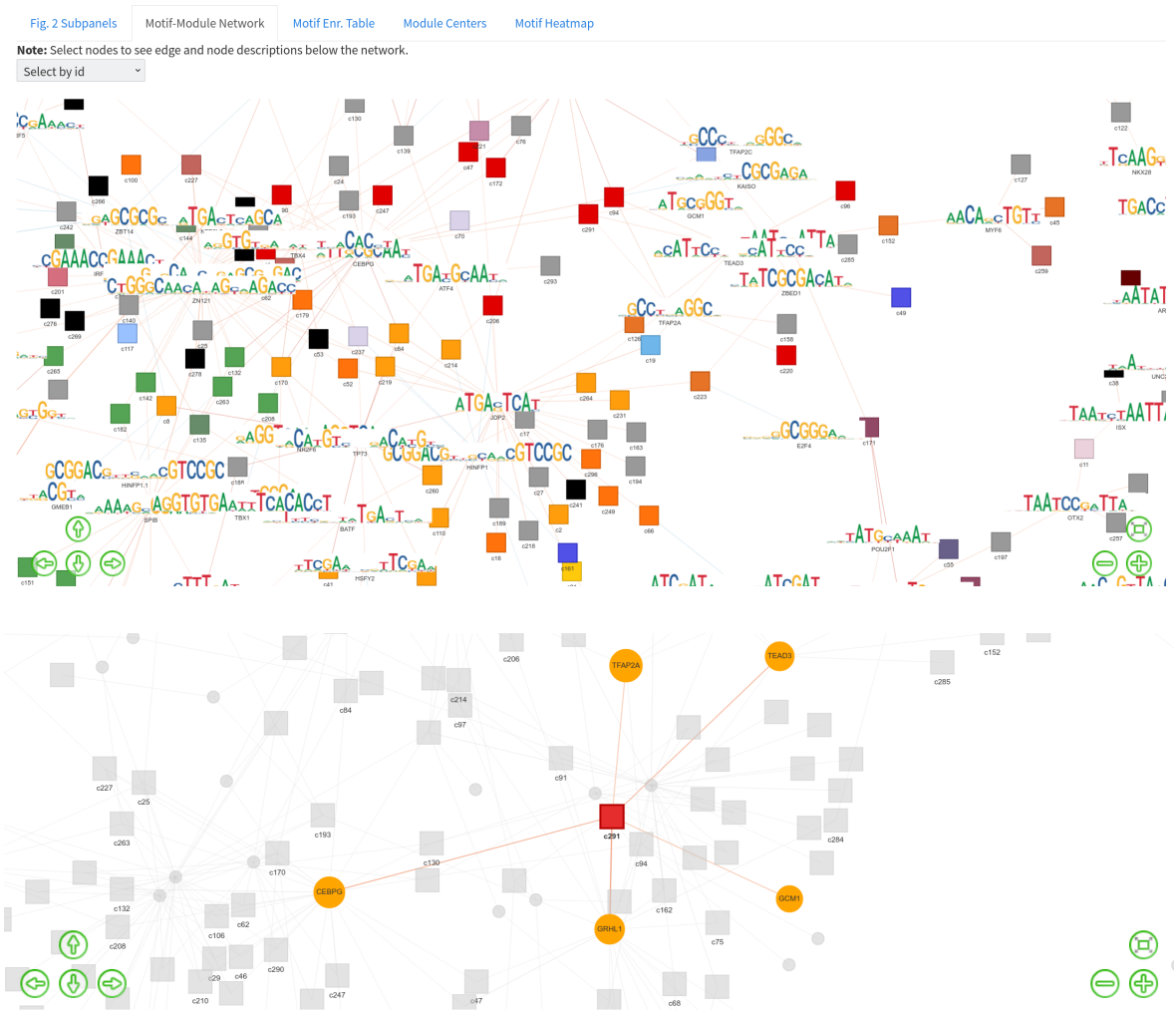
Show 10 entries Search:

cls	motif	log2FC	full.name	cls.group	motif.logo
c81	ELK1	1.835	ELK1_ETS_3	Endothelial	
c81	JDP2	2.146	JDP2_bZIP_1	Endothelial	
c8	GMEB1	-1.795	Gmeb1_MA0615.1	Epithelial	
c8	HINFP1.1	-1.661	HINFP1_C2H2_3	Epithelial	
c8	TP73	3.086	TP73_MA0861.1	Epithelial	
c8	ZBT14	-1.691	ZBT14_HUMAN.H11MO.0.C	Epithelial	
c76	CEBPG	1.944	CEBPG_bZIP_2	Cancer	
c76	FOXA2	1.604	FOXA2_HUMAN.H11MO.0.A	Cancer	
c75	GRHL1	2.282	GRHL1_CP2_1	Cancer	
c75	HNF1A	1.518	HNF1A_homeodomain_1	Cancer	

Showing 31 to 40 of 433 entries Previous 1 2 3 4 5 … 44 Next

Download Table

Figure S27: b. Example screenshots from interactive browser showing exploration of modules and motifs, subpanels of Figure 2 for heart, and motif enrichments as a table.



Network edges (for selected node):

Show 10 entries Search:

cls	motif	log2FC	full.name	cls.group	motif.logo
c291	GRHL1	2.414	GRHL1_CP2_1	Placenta/EEM	
c291	CEBPG	1.913	CEBPG_bZIP_2	Placenta/EEM	
c291	TEAD3	1.814	TEAD3_TEA_1	Placenta/EEM	
c291	TFAP2A	1.552	TFAP2A_AP2_4	Placenta/EEM	
c291	GCM1	1.547	GCM1_GCM_1	Placenta/EEM	

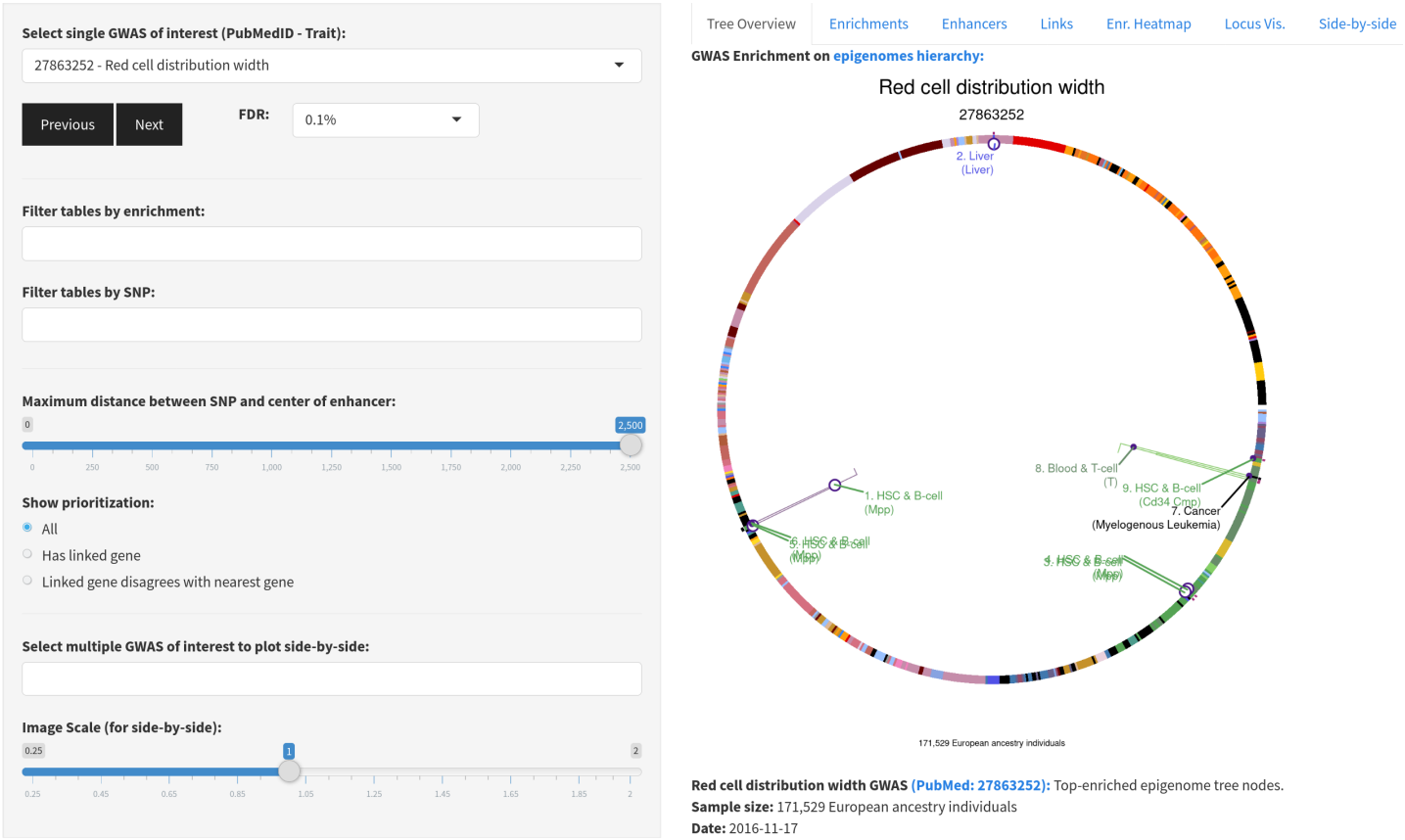
Showing 1 to 5 of 5 entries Previous 1 Next

Node summary (samples in cluster/motif logo):

Show 10 entries Search:

cls	id	inclusion	name	group	type	lifestage
c291	BSS01852	0.91	TROPHOBLAST	Placenta/EEM	primary cell	embryonic
c291	BSS01853	0.8	TROPHOBLAST	Placenta/EEM	primary cell	embryonic
c291	BSS01435	0.79	PLACENTA	Placenta/EEM	tissue	embryonic
c291	BSS01859	0.76	TROPHOBLAST	Placenta/EEM	tissue	embryonic
c291	BSS01436	0.55	PLACENTA	Placenta/EEM	tissue	embryonic
c291	BSS01860	0.4	TROPHOBLAST	Placenta/EEM	tissue	embryonic
c291	BSS01440	0.37	PLACENTA	Placenta/EEM	tissue	embryonic

Figure S27: c. Example screenshots from interactive browser showing motif-module network and selection of specific module nodes to show enriched motifs and all included samples in the module.



Red cell distribution width GWAS (PubMed: 27863252): Top-enriched epigenome tree nodes.
Sample size: 171,529 European ancestry individuals
Date: 2016-11-17

Red cell distribution width GWAS (PubMed: 27863252): Top-enriched epigenome tree nodes and nominal enrichment p-values.
Sample size: 171,529 European ancestry individuals
Date: 2016-11-17

Show 10 entries Search:

	enrRank	enrName	enr.pValue	pubMedID	trait	enrGroup
1	1	Mpp	5e-73	27863252	Red cell distribution width	HSC & B-cell
2	2	Liver	1.9e-66	27863252	Red cell distribution width	Liver
3	3	Mpp	7.6e-46	27863252	Red cell distribution width	HSC & B-cell
4	4	Mpp	1.2e-41	27863252	Red cell distribution width	HSC & B-cell
5	5	Mpp	6.2e-39	27863252	Red cell distribution width	HSC & B-cell
6	6	Mpp	1.4e-36	27863252	Red cell distribution width	HSC & B-cell
7	7	Myelogenous Leukemia	1.5e-31	27863252	Red cell distribution width	Cancer
8	8	T	1e-29	27863252	Red cell distribution width	Blood & T-cell
9	9	Cd34 Cmp	4.3e-28	27863252	Red cell distribution width	HSC & B-cell

Showing 1 to 9 of 9 entries Previous 1 Next

Figure S27: d. Example screenshots from interactive browser showing GWAS browsing and enrichments in figure and table view.

Tissue-specific enhancers near GWAS lead SNPs: All enhancers within 2.5kb of a GWAS lead SNP that are also active in one of the top-enriched tree nodes in the GWAS.

Show 10 entries Search:

	chr	snpPos	snp.pValue	enhStart	enhEnd	distToCenter	nearestGene	enrRank	enrName	enr.pValue	enrGroup
1	chr1	43428757	1e-16	43429771	43430151	1204.5	SLC2A1	9	Cd34 Cmp	4.3e-28	HSC & B-cell
2	chr2	60725451	8e-21	60727115	60727295	1754.5	BCL11A	9	Cd34 Cmp	4.3e-28	HSC & B-cell
3	chr8	26243136	9e-19	26243356	26243576	330.5	BNIP3L	9	Cd34 Cmp	4.3e-28	HSC & B-cell
4	chr1	43428757	1e-16	43429051	43429407	472.5	SLC2A1	9	Cd34 Cmp	4.3e-28	HSC & B-cell
5	chr11	205198	4e-24	202620	202880	2447.5	BET1L	9	Cd34 Cmp	4.3e-28	HSC & B-cell
6	chr1	3691998	1e-17	3691784	3692024	93.5	SMIM1	9	Cd34 Cmp	4.3e-28	HSC & B-cell
7	chr11	44594611	1e-21	44595064	44595290	566.5	CD82	9	Cd34 Cmp	4.3e-28	HSC & B-cell
8	chr8	26243136	9e-19	26244376	26244596	1350.5	BNIP3L	9	Cd34 Cmp	4.3e-28	HSC & B-cell
9	chr19	1014538	1e-12	1016279	1016819	2011.5	TMEM259	9	Cd34 Cmp	4.3e-28	HSC & B-cell
10	chr1	203281175	6e-14	203279688	203279808	1426.5	BTG2	9	Cd34 Cmp	4.3e-28	HSC & B-cell

Showing 1 to 10 of 9,039 entries Previous 1 2 3 4 5 … 904 Next

Download Enhancers

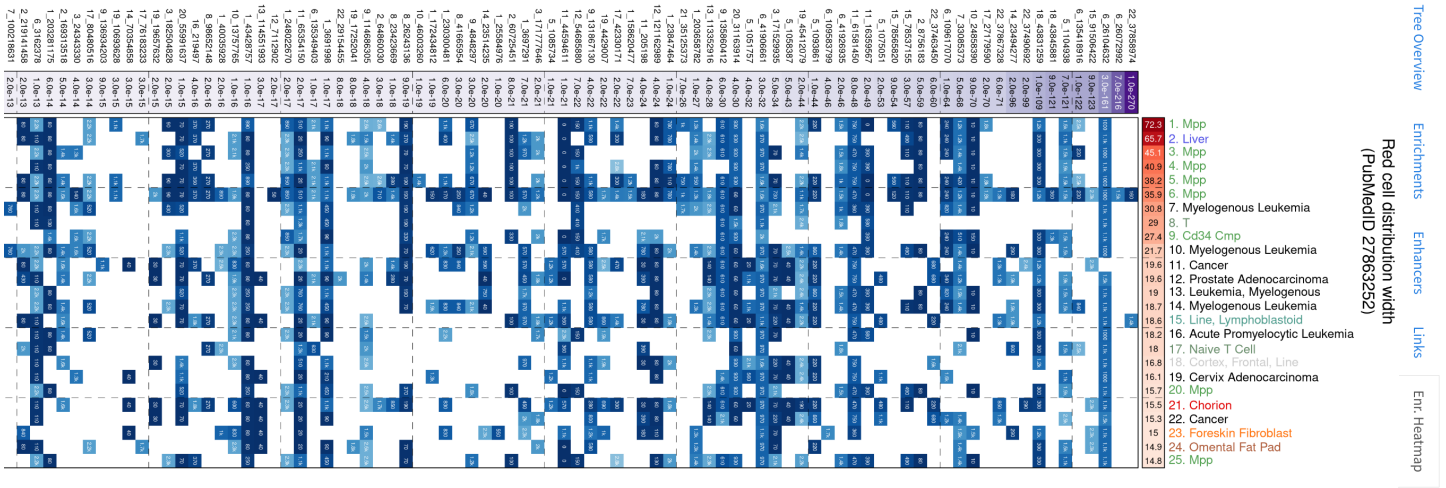


Figure S27: e. Example screenshots from interactive browser showing enhancer predictions nearby GWAS SNPs and enhancer versus subtree intersection, showing the closest enhancer to the SNP in each tissue.

Tree Overview | Enrichments | Enhancers | Links | Enr. Heatmap | Locus Vis. | Side-by-side

Table of gene-enhancer links: Gene-enhancer links in the GWAS loci (SNPs +/- 1Mb), reported for the top-enriched sample groups in the GWAS.

Show 10 entries Search:

	chr	snpPos	snp.pValue	distToCenter	nearestGene	linkedGene	linkScore	linkDist	enrRank	enrName	enr.pValue	enrGroup
6774	chr6	26104632	3e-161	1464	HIST1H4C	HFE	0.89	15658.5	1	Mpp	5e-73	HSC & B-cell
6769	chr6	26104632	3e-161	1621	HIST1H4C	HFE	0.87	15501.5	1	Mpp	5e-73	HSC & B-cell
6764	chr6	26104632	3e-161	996.5	HIST1H4C	HIST1H1T	0.36	-2736	1	Mpp	5e-73	HSC & B-cell
2563	chr6	26104632	3e-161	1199	HIST1H4C	HFE	0.84	15923.5	2	Liver	1.9e-66	Liver
2575	chr6	26104632	3e-161	1060.5	HIST1H4C	HFE	0.84	16062	2	Liver	1.9e-66	Liver
2759	chr6	26104632	3e-161	1621	HIST1H4C	HFE	0.9	15501.5	3	Mpp	7.6e-46	HSC & B-cell
2954	chr6	26104632	3e-161	1199	HIST1H4C	HFE	0.9	15923.5	3	Mpp	7.6e-46	HSC & B-cell
3149	chr6	26104632	3e-161	1464	HIST1H4C	HFE	0.89	15658.5	3	Mpp	7.6e-46	HSC & B-cell
2804	chr6	26104632	3e-161	1106.5	HIST1H4C	HIST1H1T	0.81	-2626	3	Mpp	7.6e-46	HSC & B-cell
3144	chr6	26104632	3e-161	996.5	HIST1H4C	SLC17A2	0.8	174674	3	Mpp	7.6e-46	HSC & B-cell

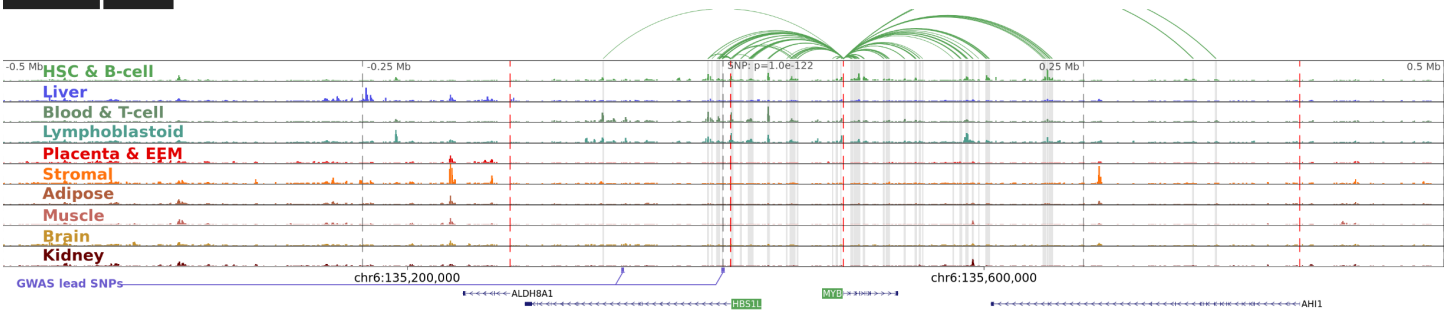
Showing 1 to 10 of 1,459 entries Previous 1 2 3 4 5 … 146 Next

Download Links

Select locus:

chr6:135,418,916 (p=1.0e-122, HBS1L)

Previous Next



Locus overview for 1Mb around selected lead SNP: Tracks show average H3K27ac signal of enhancers in locus, and red dashed lines indicate the TSSes of nearby genes. Two types of correlation-based links are plotted: **(1)** Links from one of the enhancers near a lead SNP in the enriched epigenomes. **(2)** Any links in the locus present in at least half of the samples in one of the top sample groups (HSC & B-cell). Genes linked to an enhancer within 2.5kb of a GWAS lead SNP are highlighted and colored according to the sample group with the highest link score. Link data and images for this GWAS are also available from our **data repository** . **Click to enable/disable zoom on locus, scroll to change zoom size.**

Figure S27: f. Example screenshots from interactive browser showing linking predictions on GWAS SNPs and locus visualization with links, enhancers, and prioritized genes.