

## Epigenetic differences at the *HTR2A* locus in progressive multiple sclerosis patients

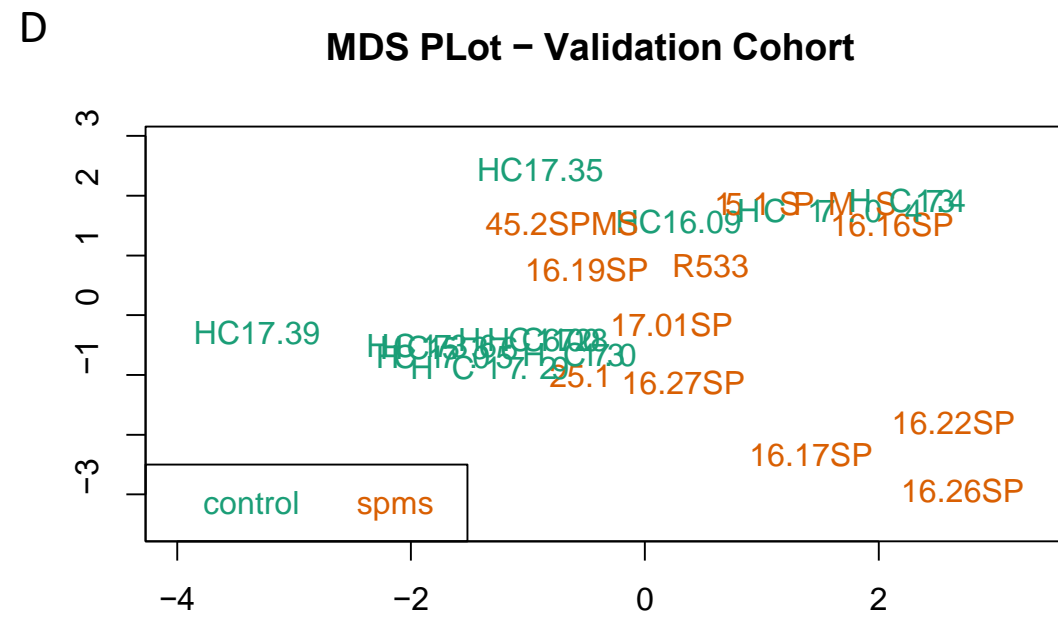
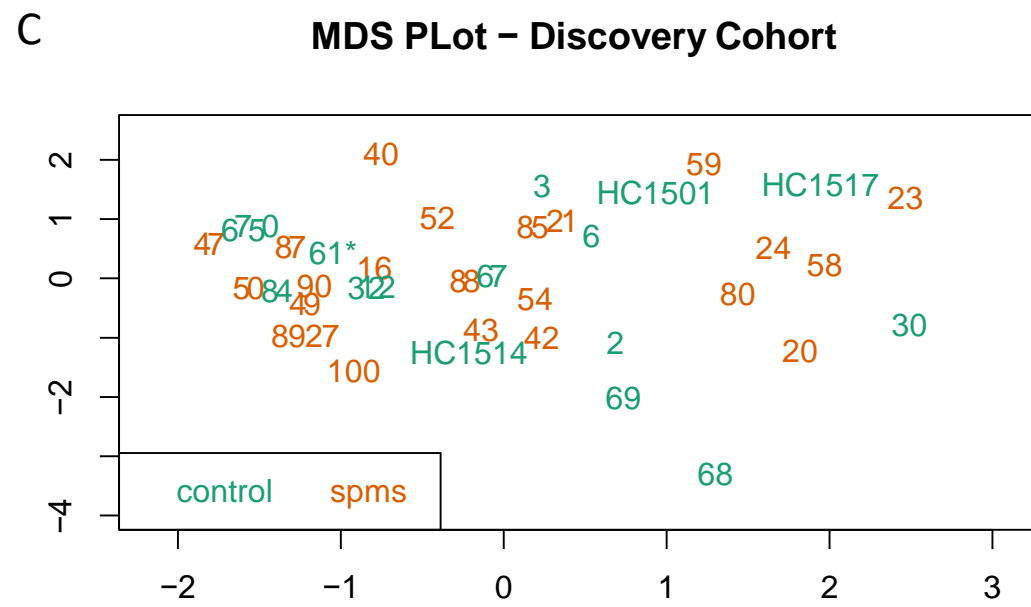
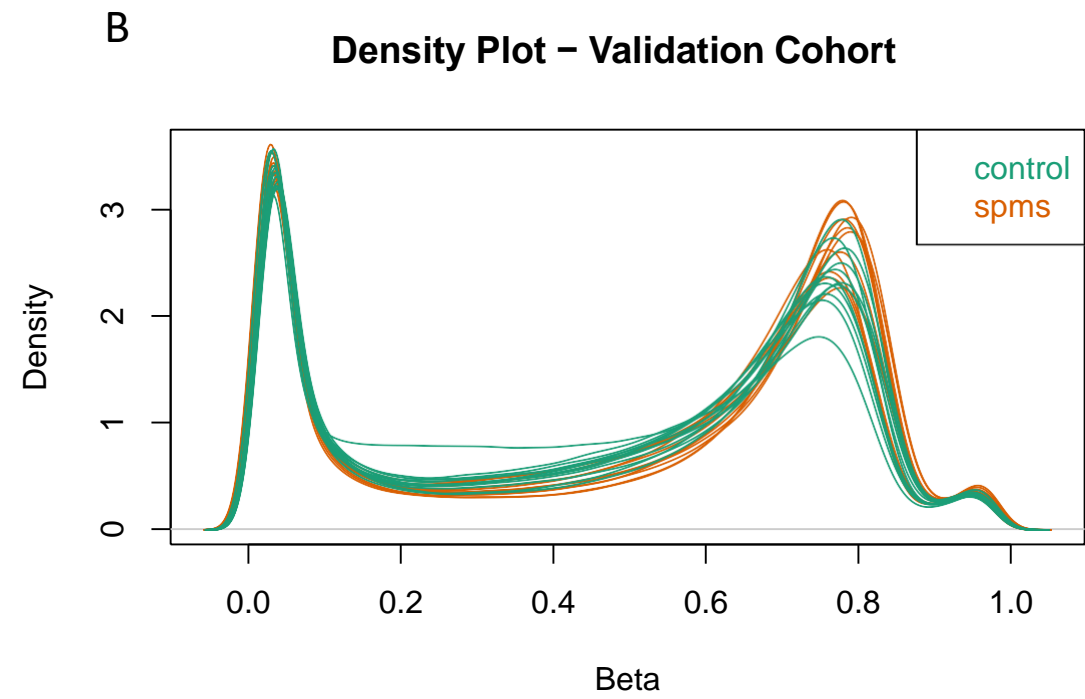
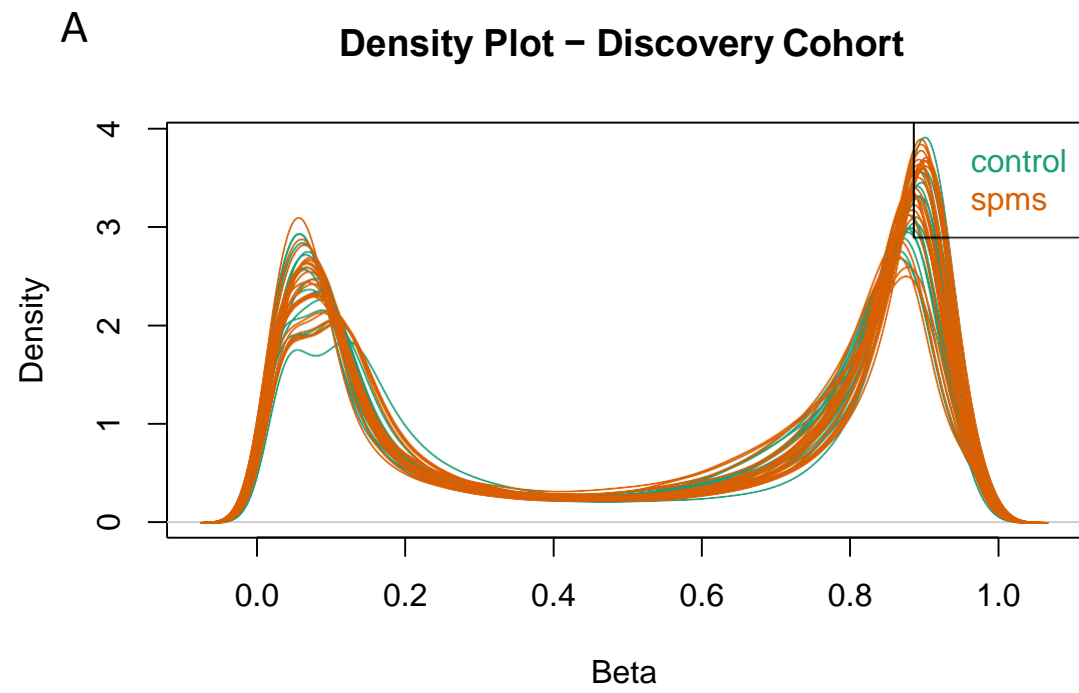
### SUPPLEMENTARY FIGURES/TABLES

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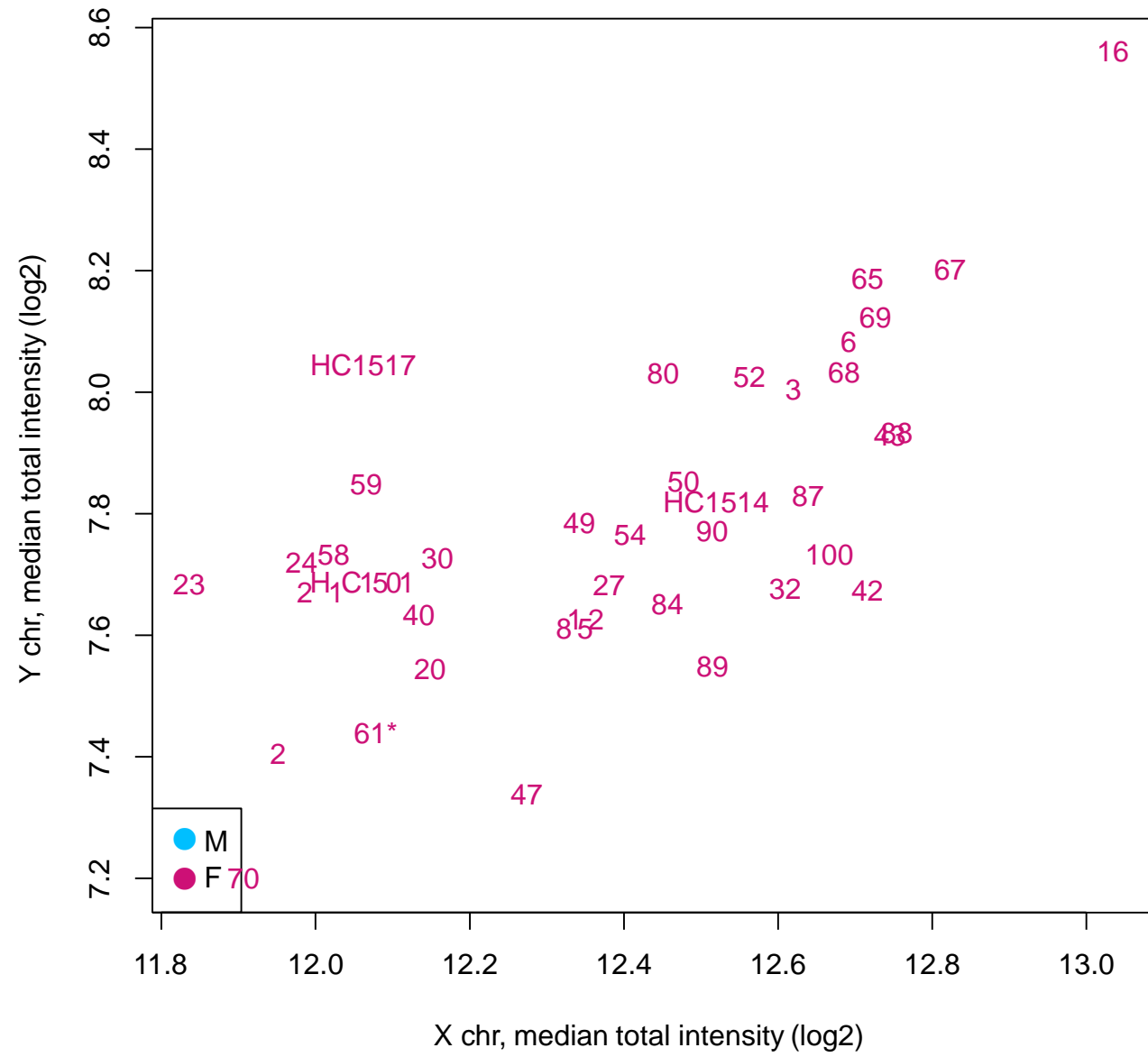
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# Supplementary Figures 1a

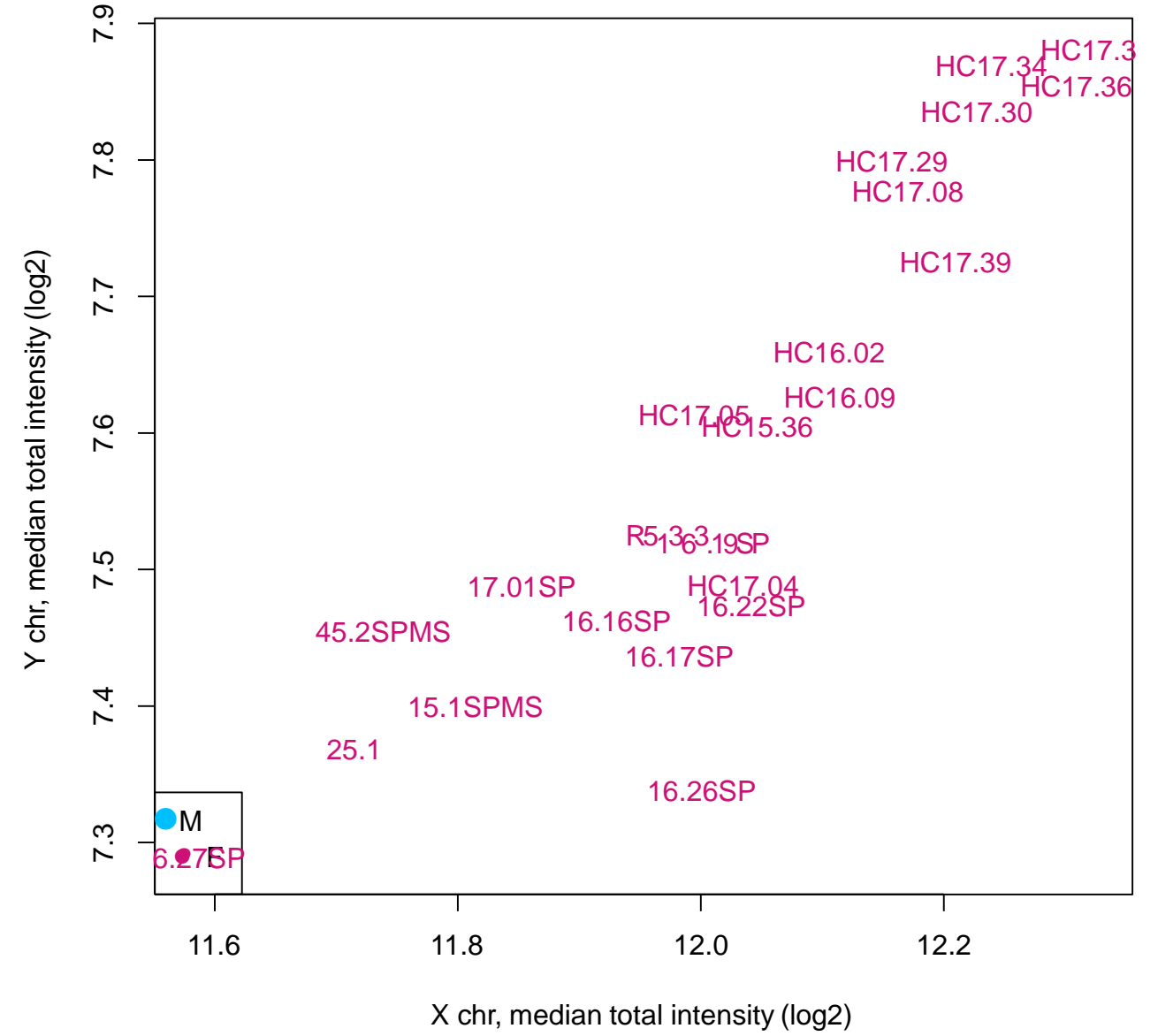
QC assessments on raw data for both cohorts. Beta density plots for discovery (panel A) and validation (panel B) cohorts with controls (green) and MS patients (orange). Multiple Dimensional Scaling (MDS) plots for discovery (panel C) and validation (panel D) cohorts) with controls (green) and MS patients (orange). Sex check plots for discovery (panel E) and validation (panel F) cohorts for female (pink) and male (blue).



**E Sex Plot – Discovery Cohort**



**F Sex Plot – Validation Cohort**

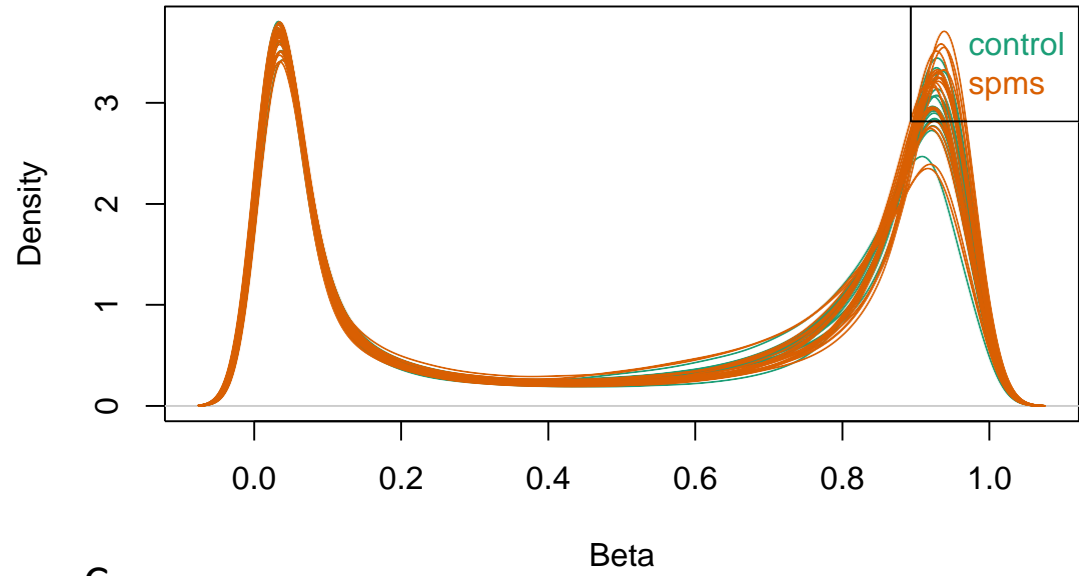


## Supplementary Files 1b

QC assessments on normalized data for both cohorts. Beta density plots for discovery (panel A) and validation (panel B) cohorts with controls (green) and MS patients (orange). Multiple Dimensional Scaling (MDS) plots for discovery (panel C) and validation (panel D) cohorts) with controls (green) and MS patients (orange).

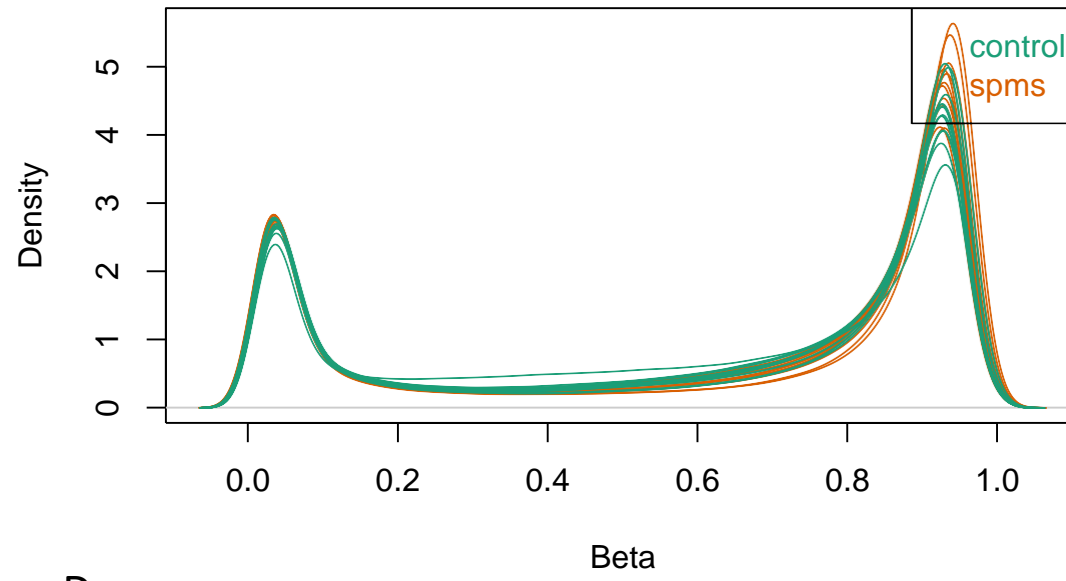
A

Density Plot – Discovery cohort



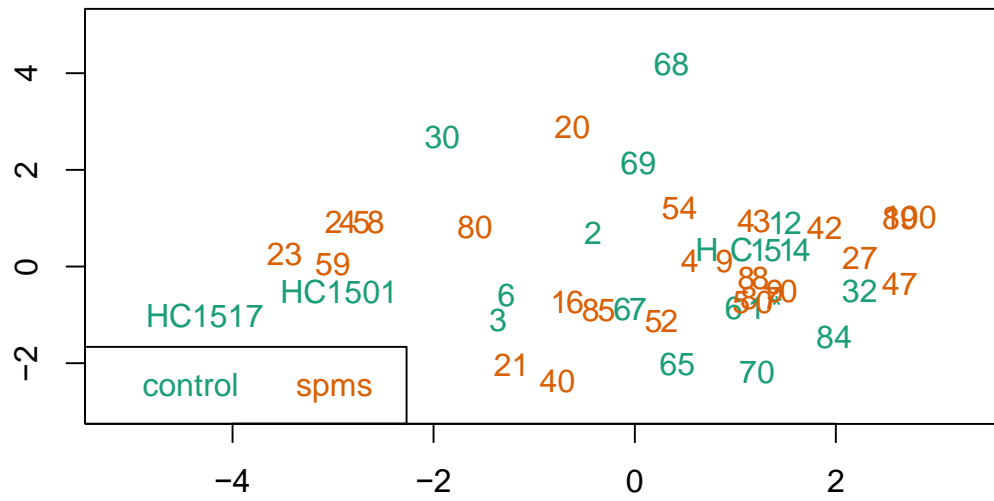
B

Density Plot – validation cohort



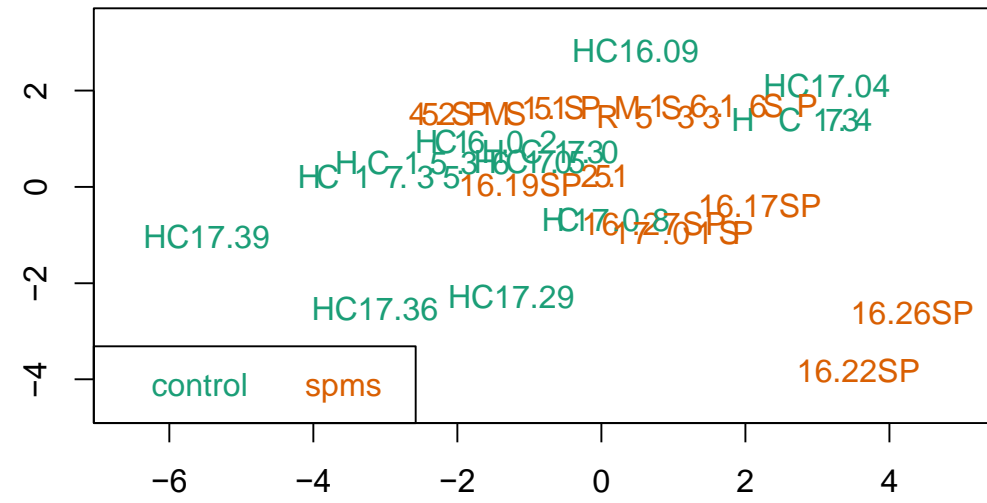
C

MDS Plot – Discovery Cohort



D

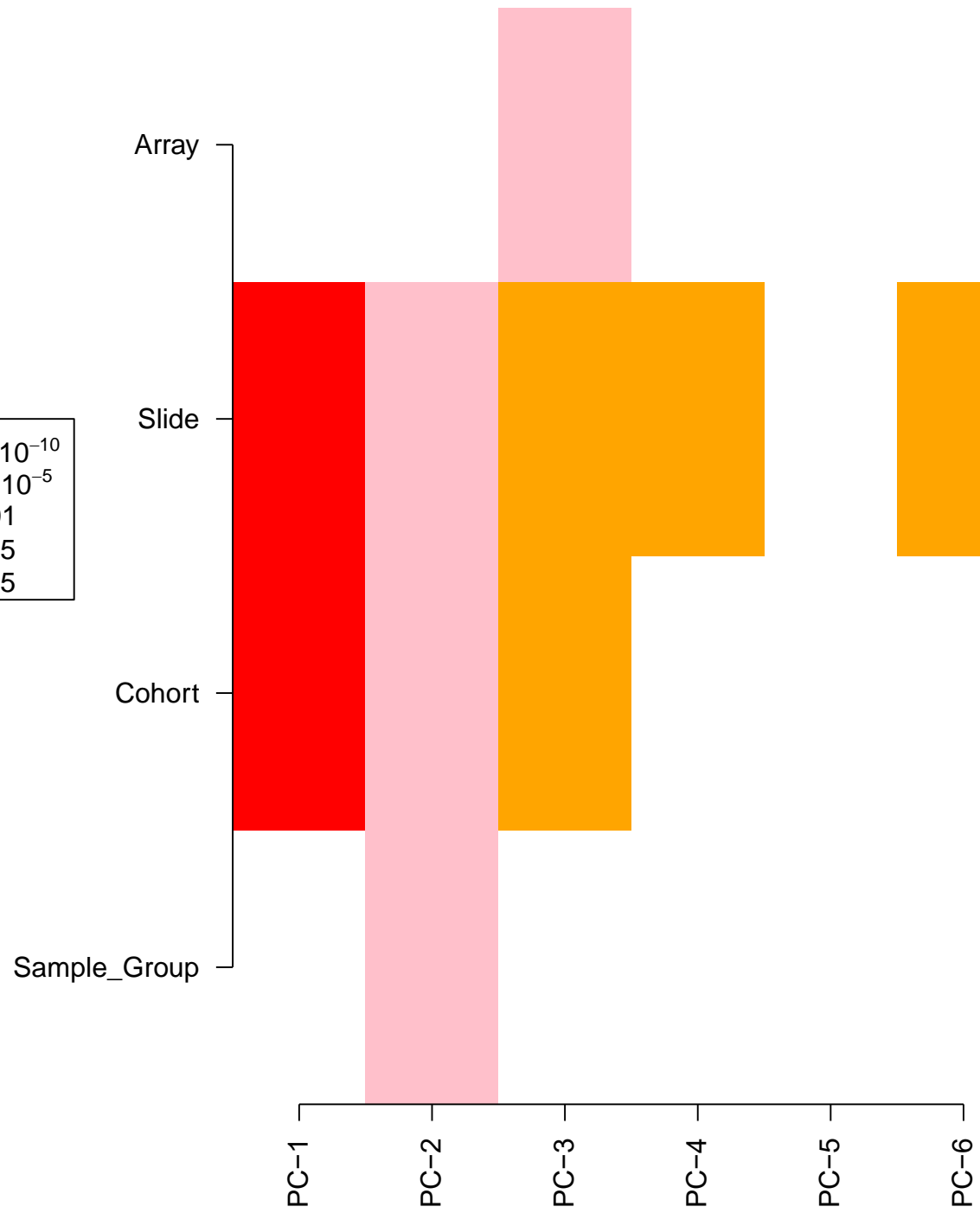
MDS Plot – Validation Cohort



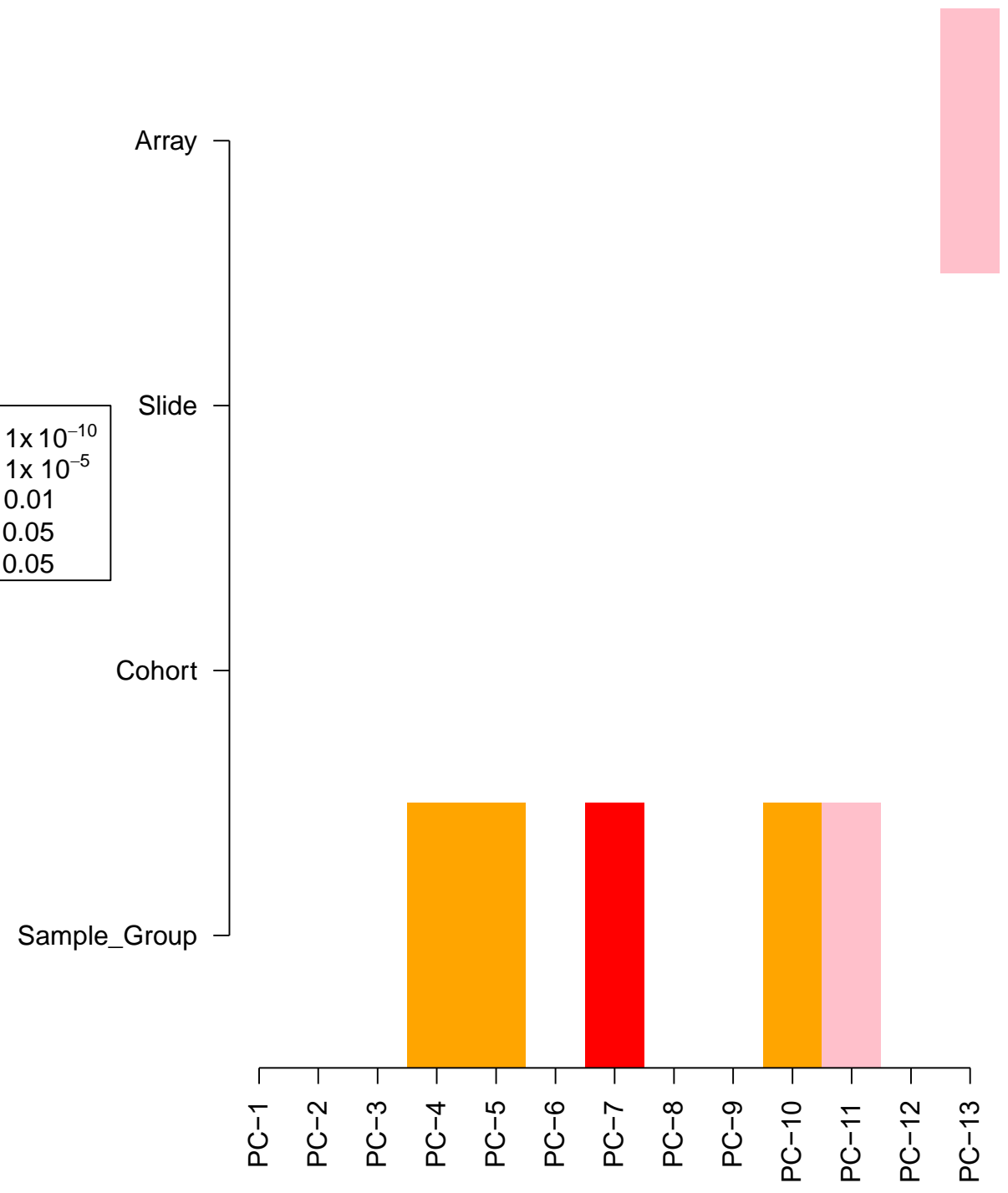
# Supplementary Files 2

Batch effect analysis for both cohorts combined left panel is before correction, right panel shows batch effects post corrections

### Singular Value Decomposition Analysis (SVD)



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Supplementary Table 3 HTR2A CpG Correlation matrix

		Correlations							
		cg01620540	cg06020661	cg09798090	cg18200810	cg24118521	cg23881368	cg05506829	cg07075299
cg01620540	Pearson Correlation	1	.895**	.890**	.887**	.883**	.866**	.859**	.892**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35
cg06020661	Pearson Correlation	.895**	1	.988**	.976**	.978**	.980**	.972**	.926**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35
cg09798090	Pearson Correlation	.890**	.988**	1	.980**	.975**	.977**	.967**	.915**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35
cg18200810	Pearson Correlation	.887**	.976**	.980**	1	.987**	.985**	.976**	.919**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000
	N	35	35	35	35	35	35	35	35
cg24118521	Pearson Correlation	.883**	.978**	.975**	.987**	1	.988**	.976**	.933**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000
	N	35	35	35	35	35	35	35	35
cg23881368	Pearson Correlation	.866**	.980**	.977**	.985**	.988**	1	.979**	.923**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000
	N	35	35	35	35	35	35	35	35
cg05506829	Pearson Correlation	.859**	.972**	.967**	.976**	.976**	.979**	1	.909**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000
	N	35	35	35	35	35	35	35	35
cg07075299	Pearson Correlation	.892**	.926**	.915**	.919**	.933**	.923**	.909**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	
	N	35	35	35	35	35	35	35	35

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Supplementary Table 4

Present_in	SNP	BP	SPMS				RRMS			
			F_A.CD4	F_U.CD4	P.CD4	OR.CD4	F_A.CD4	F_U.CD4	P.CD4	OR.CD4
CD4	rs1328684	47466230	0.2273	0.5385	0.0104	0.2521	0.375	0.3235	0.6486	1.255
CD4	rs9534495	47429228	0.5	0.1923	0.01226	4.2	0.4583	0.4412	1	1.072
Both	rs1928042	47437216	0.1136	0.3846	0.0141	0.2051	0.2292	0.25	1	0.8919
CD4	rs732821	47472879	0.5455	0.2692	0.02826	3.257	0.4167	0.4118	1	1.02
CD4	rs6561336	47448060	0.5227	0.2692	0.04789	2.973	0.3958	0.3824	1	1.058
Both	rs4941573	47464857	0.5227	0.2692	0.04789	2.973	0.3958	0.3824	1	1.058
CD4	rs6313	47469940	0.5227	0.2692	0.04789	2.973	0.3958	0.3824	1	1.058
CD4	rs6311	47471478	0.5227	0.2692	0.04789	2.973	0.3958	0.3824	1	1.058
Both	rs4142900	47473550	0.5682	0.3077	0.04807	2.961	0.5	0.4412	0.6574	1.267
CD4	rs2760345	47438574	0.02273	0.1538	0.05979	0.1279	0.1042	0.1176	1	0.8721
CD4	rs1328685	47471890	0.02273	0.1538	0.05979	0.1279	0.125	0.1176	1	1.071
CD4	rs6314	47409034	0.1364	0	0.07767	NA	0.02083	0.05882	0.5669	0.3404
Both	rs977003	47415001	0.5682	0.3462	0.08758	2.485	0.4167	0.4412	1	0.9048