

**Table S8:** Additional associations for type 1 diabetes identified by PMR methods but not a single marker analysis

disease	SNP	chromosome	position	Method										genes
				SMA	Conditional	VBay	Lasso	Adaptive Lasso	2D-MCP	LOG	NEG	1D-MCP	perm-MCP	
T1D	rs577193	1q43	236,802,015	$2.32 \times 10^{-04}$	$2.32 \times 10^{-04}$	0.0483	$2.9 \times 10^{-04}$	$3.29 \times 10^{-04}$	$6.09 \times 10^{-08}$	$1.09 \times 10^{-04}$	-	-	-	EDARADD, LGALS8, HEATR1, ACTN2, MTR
T1D	rs10865679	3p13	73,781,216	$1.96 \times 10^{-02}$	$2.2 \times 10^{-03}$	-	-	-	$5.75 \times 10^{-08}$	-	-	-	-	PDZRN3
T1D	rs4707786	6q13	71,058,226	$5.11 \times 10^{-04}$	$1.75 \times 10^{-04}$	0.375	$1.14 \times 10^{-05}$	$8.68 \times 10^{-06}$	$3.32 \times 10^{-08}$	$1.78 \times 10^{-05}$	-	$3.5 \times 10^{-05}$	-	COL19A1, COL9A1, FAM135A, C6orf57
T1D	rs760500	6q27	170,725,386	$5.24 \times 10^{-04}$	$1.66 \times 10^{-05}$	0.133	$1.55 \times 10^{-07}$	$2.04 \times 10^{-07}$	$6.63 \times 10^{-10}$	$5.32 \times 10^{-08}$	-	$1.77 \times 10^{-07}$	-	LOC154449, DLL1, FAM120B, PSMB1, TBP, PDCD2
T1D	rs346613	8q13.3	73,242,672	$2.6 \times 10^{-03}$	$2 \times 10^{-05}$	0.152	$5.5 \times 10^{-06}$	$3.22 \times 10^{-06}$	$5.33 \times 10^{-08}$	$2.32 \times 10^{-06}$	-	$3.79 \times 10^{-06}$	-	TRPA1, KCNB2
T1D	rs1075987	9q33.1	121,364,133	$9.98 \times 10^{-05}$	$9.98 \times 10^{-05}$	0.0377	$4.61 \times 10^{-05}$	$5.62 \times 10^{-05}$	$4.58 \times 10^{-09}$	$5.07 \times 10^{-05}$	-	$7.32 \times 10^{-05}$	-	
T1D	rs2666236	10p11.22	33,418,871	$4.46 \times 10^{-05}$	$2.24 \times 10^{-06}$	0.0374	$1.12 \times 10^{-04}$	$9.66 \times 10^{-05}$	$3.88 \times 10^{-08}$	$3.08 \times 10^{-05}$	-	$1.04 \times 10^{-04}$	-	C10orf68, ITGB1, NRP1
T1D	rs4938390	11q23.3	117,358,312	$9.24 \times 10^{-05}$	$3.08 \times 10^{-05}$	0.0356	$2.21 \times 10^{-06}$	$7.65 \times 10^{-07}$	$8.48 \times 10^{-06}$	$4.78 \times 10^{-07}$	-	$8.86 \times 10^{-07}$	-	7 genes
T1D	rs17756934	12q23.3	107,949,264	$2.34 \times 10^{-02}$	$1.65 \times 10^{-04}$	0.0127	$3.27 \times 10^{-06}$	$8.64 \times 10^{-06}$	$7.99 \times 10^{-12}$	$8 \times 10^{-06}$	-	$3.76 \times 10^{-06}$	-	B TBD11, PWP1, PRDM4, ASCL4
T1D	rs341557	13q21.2	60,367,013	$4.45 \times 10^{-05}$	$4.45 \times 10^{-05}$	-	-	-	-	$2.58 \times 10^{-09}$	$2 \times 10^{-05}$	-	-	DIAPH3
T1D	rs1357809	18q12.1	27,656,198	$1.8 \times 10^{-02}$	$5.1 \times 10^{-04}$	0.011	-	-	-	$6.04 \times 10^{-08}$	$6.69 \times 10^{-05}$	-	-	