Supplementary Table 1. Study subject characteristics used in the study.

Cohort	Subjects	number	Age (median, range)	Sex (male/female)	HLA DR3/x n (%)	HLA DR4/x n (%)
1	Controls	200	11 years, 6-18	110/90	-	-
1	Patients	500*	10 years, 1-19	278/222	87(42.6%)	144 (70.6%)
2	Patients	751**	10 years, 1-20	414/337	302(40.2%)	501(66.7%)

*HLA DR data was available in 204 of these patients
**Only 740 of these had sufficient sample remaining to measure anti-MLH1

Supplementary Table 2. Antibody combinations in patients and controls from cohort 1

Positive antibody combinations	Patients with type 1 diabetes N=500	Controls N=200
MTIF3, PPIL2, NUP50, MLH1	1 (0.2%)	0
MTIF3, PPIL2, NUP50	4 (0.8%)	0
MTIF3, PPIL2, MLH1	3 (0.6%)	0
MTIF3, NUP50, MLH1	2 (0.4%)	0
PPIL2, NUP50, MLH1	0	0
MTIF3, PPIL2	3 (0.6%)	0
MTIF3, NUP50	2 (0.4%)	1 (0.5%)
MTIF3, MLH1	3 (0.6%)	0
PPIL2, NUP50	7 (1.4%)	1 (0.5%)
PPIL2, MLH1	3 (0.6%)	0
NUP50, MLH1	4(0.8%)	0
MTIF3 only	103 (20.6%)	4 (2%)
PPIL2 only	14 (2.8%)	4 (2%)
NUP50 only	9 (1.8%)	3 (1.5%)
MLH1 only	21 (4.2%)	5 (2.5%)