ESM Table 5 Effects of *DHCR7* rs12785878, *CYP2R1* rs10741657, and *GC* rs2282679 on changes in body weight, glucose, insulin, and HOMA-IR in response to low/high fat diets

	DHCR7 rs12785878				*CYP2R1* rs10741657				*GC* rs2282679			
	6 months		2 years		6 months		2 years		6 months		2 years	
	β ± SE	*P*	β ± SE	*P*	β ± SE	*P*	β ± SE	*P*	β ± SE	*P*	β ± SE	*P*
Change in body weight, kg												
Low-fat	-0.85 ± 0.47	0.07	-0.24 ± 0.68	0.72	0.45 ± 0.46	0.33	1.26 ± 0.65	0.05	0.19 ± 0.47	0.69	-0.17 ± 0.69	0.81
High-fat	-0.93 ± 0.49	0.06	-1.21 ± 0.66	0.07	-0.49 ± 0.43	0.25	-0.79 ± 0.57	0.16	1.06 ± 0.52	0.04	1.34 ± 0.70	0.05
P for interaction		0.80		0.22		0.22		0.02		0.17		0.08
Change in glucose, mmol/l												
Low-fat	-0.01 ± 0.04	0.77	0.05 ± 0.04	0.18	0.03 ± 0.04	0.35	0.04 ± 0.04	0.27	0.03± 0.04	0.45	0.03 ± 0.04	0.45
High-fat	0.05 ± 0.04	0.19	0.01 ± 0.06	0.89	-0.09 ± 0.04	0.01	-0.02 ± 0.05	0.74	-0.03 ± 0.04	0.43	-0.04 ± 0.04	0.49
P for interaction		0.43		0.39		0.004		0.32		0.48		0.47
Change in log-insulin, pmol/l												
Low-fat	-0.04 ± 0.04	0.29	0.01 ± 0.04	0.83	0.08 ± 0.04	0.04	0.09 ± 0.04	0.03	0.02 ± 0.04	0.61	-0.03 ± 0.04	0.49
High-fat	-0.03 ± 0.04	0.39	-0.01 ± 0.04	0.90	-0.02 ± 0.03	0.46	-0.03 ± 0.04	0.39	0.06 ± 0.04	0.13	0.05 ± 0.05	0.30
P for interaction		0.29		0.48		0.02		0.03		0.14		0.14
Change in log-HOMA-IR												
Low-fat	-0.04 ± 0.04	0.31	0.02 ± 0.05	0.69	0.08 ± 0.04	0.04	0.10 ± 0.04	0.03	0.03 ± 0.04	0.52	-0.03 ± 0.05	0.58
High-fat	-0.02 ± 0.04	0.63	-0.00 ± 0.05	0.93	-0.04 ± 0.04	0.23	-0.04 ± 0.04	0.39	0.05 ± 0.04	0.22	0.04 ± 0.05	0.47
P for interaction		0.42		0.41		0.01		0.03		0.23		0.24

Data are βs ± SE, representing effect size for each vitamin-D-increasing allele of *DHCR7* rs12785878 (T-allele), *CYP2R1* rs10741657 (A-allele), and *GC* rs2282679 (A-allele), respectively, on change in each trait, adjusted for age, sex ethnicity and the baseline value for the respective outcome trait.