

Supplementary Table S1. Spearman correlation coefficients of macronutrients and anthropometrics, biochemical profiles and insulin secretion/resistance indices.

Correlation coefficient	Total calories (kcal/d)	Carbohydrate s, g/day	Protein, g/day	Fat, g/day	Sugar, g/day	Fiber, g/day	Vigorous, MET-min/week	Moderate, MET-min/week	Light, MET-min/week	Total PA min/week	Sedentary, min/day
Age, years	r = -0.111, p=0.146	r = -0.057, p=0.456	r = -0.079, p=0.294	r = -0.182 , p= 0.016	r = -0.035, p=0.648	r = 0.142, p=0.061	r = -0.002, p=0.978	r = 0.171 , p= 0.024	r = 0.081, p=0.299	r = 0.113, p=0.136	r = -0.389 , p< 0.0001
Sex	r = -0.407 , p< 0.0001	r = -0.295 , p< 0.0001	r = -0.425 , p< 0.0001	r = -0.305 , p< 0.0001	r = -0.132, p=0.080	r = 0.090, p=0.233	r = 0.072, p=0.345	r = 0.005, p=0.950	r = 0.057, p=0.466	r = 0.017, p=0.821	r = -0.055, p=0.491
Weight, kg	r = 0.287 , p< 0.0001	r = 0.263 , p< 0.0001	r = 0.184 , p= 0.015	r = 0.208 , p= 0.005	r = 0.083, p=0.272	r = -0.298 , p= 0.001	r = -0.024, p=0.752	r = -0.153 , p= 0.043	r = -0.050, p=0.519	r = -0.136, p=0.073	r = 0.203 , p= 0.010
Waist circumference, cm	r = 0.123, p=0.104	r = 0.125, p=0.099	r = 0.023, p=0.765	r = 0.092, p=0.225	r = -0.074, p=0.328	r = -0.334 , p< 0.0001	r = -0.032, p=0.676	r = -0.192 , p= 0.011	r = -0.057, p=0.462	r = -0.176 , p= 0.019	r = 0.134, p=0.092
Hip circumference, cm	r = 0.065, p=0.394	r = 0.130, p=0.085	r = -0.050, p=0.508	r = 0.018, p=0.815	r = 0.048, p=0.531	r = -0.335 , p< 0.0001	r = -0.059, p=0.441	r = -0.177 , p= 0.020	r = -0.070, p=0.368	r = -0.185 , p= 0.014	r = 0.114, p=0.151
BMI, kg/m ²	r = 0.033, p=0.668	r = 0.069, p=0.366	r = -0.044, p=0.558	r = -0.011, p=0.881	r = -0.014, p=0.851	r = -0.371 , p< 0.0001	r = 0.006, p=0.940	r = -0.129, p=0.089	r = -0.090, p=0.251	r = -0.162 , p= 0.032	r = 0.081, p=0.311
Body fat, %	r = -0.339 , p< 0.0001	r = -0.223 , p= 0.003	r = -0.405 , p< 0.0001	r = -0.252 , p= 0.001	r = -0.182, p=0.017	r = -0.185 , p= 0.015	r = -0.019, p=0.806	r = -0.091, p=0.240	r = -0.053, p=0.502	r = -0.134, p=0.079	r = 0.010, p=0.906
Fasting glucose, mmol/L	r = 0.123, p=0.105	r = 0.042, p=0.578	r = 0.138, p=0.069	r = 0.103, p=0.173	r = -0.038, p=0.613	r = -0.018, p=0.810	r = -0.025, p=0.739	r = -0.165, p=0.029	r = -0.083, p=0.286	r = -0.089, p=0.243	r = -0.097, p=0.223
1hr PG, mmol/L	r = 0.032, p=0.673	r = -0.023, p=0.765	r = 0.076, p=0.321	r = 0.052, p=0.497	r = -0.062, p=0.416	r = -0.086, p=0.262	r = -0.058, p=0.450	r = -0.154, p=0.044	r = -0.130, p=0.097	r = -0.121, p=0.111	r = 0.064, p=0.427
2hr PG, mmol/L	r = 0.020, p=0.791	r = 0.026, p=0.733	r = -0.026, p=0.731	r = 0.000, p=0.999	r = -0.016, p=0.836	r = -0.049, p=0.520	r = -0.147, p=0.053	r = -0.135, p=0.076	r = 0.046, p=0.559	r = -0.132, p=0.181	r = 0.088, p=0.269

Fasting C-peptide, pmol/L	r =0.077, p=0.313	r =0.072, p=0.346	r =0.036, p=0.642	r =0.083, p=0.277	r = -0.124, p=0.102	r = -0.307, p<0.0001	r = -0.144, p=0.058	r = -0.235, p=0.002	r = -0.030, p=0.706	r = -0.194, p=0.010	r =0.174, p=0.029
2hr plasma C-peptide, pmol/L	r = -0.081, p=0.288	r = -0.061, p=0.426	r = -0.077, p=0.315	r = -0.077, p=0.310	r = -0.193, p=0.011	r = -0.251, p=0.001	r = -0.261, p=0.001	r = -0.189, p=0.013	r = -0.042, p=0.591	r = -0.184, p=0.015	r =0.098, p=0.219
HOMA2-IR	r =0.087, p=0.255	r =0.082, p=0.282	r =0.044, p=0.568	r =0.088, p=0.247	r = -0.119, p=0.117	r = -0.301, p<0.0001	r = -0.152, p=0.045	r = -0.247, p=0.001	r = -0.029, p=0.717	r = -0.200, p=0.008	r =0.165, p=0.038
HOMA2-beta	r =0.015, p=0.849	r =0.056, p=0.463	r = -0.045, p=0.556	r =0.008, p=0.917	r = -0.096, p=0.206	r = -0.262, p<0.0001	r = -0.057, p=0.453	r = -0.113, p=0.139	r = -0.020, p=0.799	r = -0.112, p=0.142	r =0.217, p=0.006
HOMA2-S %	r = -0.083, p=0.276	r = -0.101, p=0.186	r = -0.031, p=0.684	r = -0.067, p=0.383	r =0.130, p=0.088	r =0.288, p<0.0001	r =0.119, p=0.119	r =0.232, p=0.002	r =0.044, p=0.580	r = 0.185, p=0.014	r = -0.173, p=0.030
Early C-peptidogenic index (pmol/mmol)	r =0.022, p=0.774	r =0.095, p=0.216	r =0.006, p=0.942	r =0.001, p=0.991	r = -0.015, p=0.842	r = -0.125, p=0.103	r = -0.121, p=0.116	r = -0.051, p=0.506	r =0.041, p=0.605	r = -0.047, p=0.540	r =0.051, p=0.529
Late C-peptidogenic index (pmol/mmol)	r = -0.070, p=0.357	r = -0.017, p=0.828	r = -0.058, p=0.445	r = -0.104, p=0.172	r = -0.048, p=0.528	r = -0.065, p=0.397	r = -0.065, p=0.396	r = -0.127, p=0.097	r = -0.072, p=0.358	r = -0.107, p=0.163	r =0.033, p=0.679

Spearman correlation was used in this analysis, and bolded was significant (p<0.05). Abbreviations: PG=plasma glucose; CP= C-peptide
HOMA=Homeostasis model assessment for insulin resistance (HOMA-IR) and beta cell function (HOMA-beta) derived from fasting PG and CP.

Supplementary Table S2. Pearson correlation coefficients of individual and total FODMAPs and anthropometrics

Correlation coefficient	Dietary glucose	Dietary fructose	Excess Fructose	Lactose	Sorbitol	Mannitol	Fructans	GOS	Total FODMAPs
Age, years	r =0.111, p=0.142	r =0.104, p=0.168	r =0.030, p=0.694	r = -0.096, p=0.206	r = -0.036, p=0.635	r = 0.006, p=0.941	r = -0.012, p=0.876	r = 0.031, p=0.679	r = -0.071, p=0.349
Sex	r =0.014, p=0.858	r = -0.004, p=0.954	r = -0.049, p=0.515	r = -0.138, p=0.067	r =0.026, p=0.730	r =0.138, p=0.069	r = -0.078, p=0.301	r =0.042, p=0.576	r = -0.111, p=0.142
Weight, kg	r = -0.224, p=0.003	r = -0.194, p=0.010	r = -0.096, p=0.203	r =0.039, p=0.607	r = -0.066, p=0.387	r = -0.209, p=0.005	r = -0.060, p=0.428	r = -0.138, p=0.067	r =0.054, p=0.479
Waist circumference, cm	r = -0.265, p<0.0001	r = -0.246, p=0.001	r = -0.176, p=0.020	r = -0.053, p=0.482	r = -0.129, p=0.088	r = -0.230, p=0.002	r = -0.168, p=0.026	r = -0.201, p=0.007	r = -0.188, p=0.013
Hip circumference, cm	r = -0.230, p=0.002	r = -0.217, p=0.004	r = -0.191, p=0.011	r = -0.073, p=0.337	r = -0.111, p=0.141	r = -0.211, p=0.005	r = -0.106, p=0.163	r = -0.156, p=0.038	r = -0.174, p=0.021
BMI, kg/m ²	r = -0.257, p=0.001	r = -0.242, p=0.001	r = -0.178, p=0.018	r = -0.068, p=0.372	r = -0.053, p=0.486	r = -0.240, p=0.001	r = -0.108, p=0.155	r = -0.198, p=0.008	r = -0.169, p=0.025
Body fat, %	r = -0.212 p=0.005	r = -0.226, p=0.003	r = -0.204, p=0.007	r = -0.157, p=0.040	r = -0.035, p=0.646	r = -0.076, p=0.323	r = -0.143, p=0.061	r = -0.162, p=0.033	r = -0.229, p=0.003

Pearson correlation was used in this analysis, and bolded was significant (p<0.05) Abbreviations: BMI body mass index

Supplementary Table S3. Pearson correlation coefficients of individual and total FODMAPs and glucose, insulin secretion and sensitivity indices

Correlation coefficient	Dietary glucose	Dietary fructose	Excess Fructose	Lactose	Sorbitol	Mannitol	Fructans	GOS	Total FODMAPs
Fasting glucose, mmol/L	r = -0.022, p=0.775	r = -0.038, p=0.614	r = -0.060, p=0.426	r =0.018, p=0.812	r =0.031, p=0.684	r =0.041, p=0.586	r = -0.003, p=0.971	r =0.061, p=0.420	r =0.019, p=0.804
1hr PG, mmol/L	r = -0.027, p=0.723	r = -0.038, p=0.618	r = -0.010, p=0.900	r =0.126, p=0.099	r = -0.001, p=0.995	r = 0.036, p=0.637	r = -0.074, p=0.333	r = -0.045, p=0.557	r =0.066, p=0.384
2hr PG, mmol/L	r = -0.036, p=0.636	r = -0.058, p=0.445	r = 0.016, p=0.830	r = 0.023, p=0.763	r =0.047, p=0.534	r = 0.050, p=0.509	r =0.040, p=0.596	r = -0.026, p=0.736	r = 0.042, p=0.581
Fasting C-peptide, pmol/L	r = -0.187, p=0.013	r = -0.164, p=0.031	r =-0.056, p=0.461	r =-0.035, p=0.648	r = 0.001, p=0.985	r = -0.169, p=0.026	r = -0.070, p=0.361	r = -0.197, p=0.009	r = -0.098, p=0.200
2hr plasma C-peptide, pmol/L	r = -0.112, p=0.140	r = -0.075, p=0.324	r =0.043, p=0.571	r = -0.040, p=0.602	r = 0.032, p=0.670	r = -0.100, p=0.191	r = -0.048, p=0.527	r = -0.203, p=0.007	r = -0.067, p=0.379
HOMA2-IR	r = -0.187, p=0.013	r = -0.165, p=0.029	r = -0.059, p=0.441	r = -0.035, p=0.649	r = 0.005, p=0.948	r = -0.164, p=0.030	r = -0.071, p=0.350	r = -0.192, p=0.011	r = -0.097, p=0.203
HOMA2-beta	r = -0.037, p=0.628	r = -0.087, p=0.256	r = -0.055, p=0.469	r = -0.048, p=0.529	r = -0.040, p=0.599	r = -0.197, p=0.009	r = -0.070, p=0.357	r = -0.228, p=0.002	r = -0.120, p=0.114
HOMA2-S, %	r =0.138, p=0.070	r =0.148, p=0.052	r =0.102, p=0.180	r =0.005, p=0.946	r =0.014, p=0.850	r =0.174, p=0.022	r =0.069, p=0.365	r =0.251, p=0.001	r =0.092, p=0.229
Early C-peptidogenic index (pmol/mmol)	r =0.027, p=0.727	r =0.039, p=0.611	r =0.067, p=0.382	r = -0.022, p=0.772	r =0.081, p=0.292	r = -0.145, p=0.058	r = 0.092, p=0.232	r = -0.085, p=0.270	r = 0.010, p=0.897
Late C-peptidogenic index (pmol/mmol)	r =0.025, p=0.745	r =0.036, p=0.639	r =0.084, p=0.270	r =0.010, p=0.895	r =0.058, p=0.450	r = 0.101, p=0.186	r = -0.013, p=0.867	r =0.036, p=0.637	r = 0.040, p=0.598

Pearson correlation was used in this analysis, and bolded was significant (p<0.05). Abbreviations: PG=plasma glucose; CP= C-peptide
HOMA=Homeostasis model assessment for insulin resistance (HOMA-IR) and beta cell function (HOMA-beta) derived from fasting PG and CP.