SUPPLEMENTARY DATA

Supplementary Table 1. Pearson correlations of baseline levels of glycerol, fasting free fatty acids and omega fatty acids with age, BMI and traits of glucose metabolism in non-diabetic subjects (N=8566-8749).

	Glycerol		Fasting FFAs		Omega-3 FAs		Docosahexaenoic acid		Omega-6 FAs		Linoleic acid		Monounsaturated FAs		Saturated and omega-7&9 FAs	
Variable	*r*	*P*	*r*	*P*	*r*	*P*	*r*	*P*	*R*	*P*	*r*	*P*	*r*	*P*	*r*	*P*
Age, y	0.064	2.2×10^{-09}	0.076	9.0×10^{-13}	0.117	7.2×10^{-28}	0.155	1.4×10^{-47}	0.044	5.2×10^{-5}	0.016	0.130	-0.098	4.9×10^{-20}	-0.075	4.1×10^{-12}
BMI, kg/m^2	0.248	9.3×10^{-122}	0.113	4.6×10^{-26}	-0.027	0.013	0.006	0.574	-0.306	3.0×10^{-186}	-0.322	3.9×10^{-208}	0.242	2.0×10^{-115}	0.313	8.3×10^{-196}
FPG, mmol/L	0.125	1.9×10^{-31}	0.121	6.9×10^{-30}	0.034	1.4×10^{-3}	0.036	7.9×10^{-4}	-0.185	1.5×10^{-67}	-0.196	2.7×10^{-75}	0.161	4.7×10^{-51}	0.171	4.8×10^{-58}
2hPG, mmol/L	0.263	2.6×10^{-136}	0.313	2.4×10^{-198}	0.032	3.0×10^{-3}	0.045	2.6×10^{-5}	-0.258	1.7×10^{-131}	-0.265	2.5×10^{-139}	0.187	1.3×10^{-68}	0.241	2.9×10^{-114}
Fasting insulin, pmol/L	0.270	5.4×10^{-144}	0.106	3.0×10^{-23}	-0.068	3.0×10^{-10}	-0.051	1.8×10^{-6}	-0.366	1.8×10^{-271}	-0.344	7.9×10^{-238}	0.302	4.4×10^{-181}	0.382	1.0×10^{-298}
2h Insulin, pmol/L	0.299	1.5×10^{-177}	0.195	1.4×10^{-75}	0.001	0.96	0.023	0.036	-0.315	1.3×10^{-197}	-0.305	7.9×10^{-186}	0.239	1.1×10^{-112}	0.314	2.7×10^{-196}
Matsuda ISI, mg/dL, mU/L	-0.307	1.5×10^{-186}	-0.154	2.9×10^{-47}	0.053	1.3×10^{-6}	0.038	4.4×10^{-4}	0.386	1.3×10^{-303}	0.369	1.3×10^{-275}	-0.315	8.0×10^{-197}	-0.397	$<1.1\times10^{-282}$
$InsAUC_{0-30}$/ GluAUC0-30, pmol/mmol	0.164	4.0×10^{-53}	-0.029	6.7×10^{-3}	-0.068	3.5×10^{-10}	-0.066	1.2×10^{-9}	-0.235	3.2×10^{-108}	-0.206	9.9×10^{-83}	0.200	5.5×10^{-78}	0.254	5.3×10^{-127}

FFA, free fatty acid; FA, fatty acid, BMI, body mass index. FPG, fasting plasma glucose; 2hPG, 2-hour plasma glucose; Matsuda ISI, Matsuda insulin sensitivity index, $InsAUC_{0-30}$/GluAUC0-30 AUC, Insulin area under curve 0-30 / Glucose area under the curve 0-30 minutes. Glycerol and fasting FFA are given in mmol/L, all others (omega 3 FAs, docosahexaenoic acid, omega-6 FAs, linoleic acid, monounsaturated FAs, and saturated FAs and omega 7&9 FAs) as percentage of total FAs. All traits were logarithmically transformed to correct for their skewed distribution, except for age.

SUPPLEMENTARY DATA

Supplementary Table 2. Partial correlations of baseline levels of glycerol, fasting free fatty acids and omega fatty acids with traits of glucose metabolism in non-diabetic subjects adjusted for age and BMI (N=8566-8749).

	Glycerol		Fasting FFAs		Omega-3 FAs		Docosahexaenoic acid		Omega-6 FAs		Linoleic acid		Monounsaturated FAs		Saturated and omega-7&9 FAs	
Variable	*r*	*P*	*r*	*P*	*r*	*P*	*r*	*P*	*R*	*P*	*r*	*P*	*r*	*P*	*r*	*P*
FPG, mmol/L	0.067	$4.2x10^{-10}$	0.095	$4.0x10^{-19}$	0.040	$2.4x10^{-4}$	0.032	$2.7x10^{-3}$	-0.121	$1.7x10^{-29}$	-0.128	$9.3x10^{-33}$	0.111	$5.3x10^{-25}$	0.105	$9.6x10^{-23}$
2hPG, mmol/L	0.205	$2.1x10^{-82}$	0.288	$4.5x10^{-166}$	0.020	0.069	0.018	0.089	-0.207	$1.5x10^{-84}$	-0.207	$4.2x10^{-84}$	0.154	$3.9x10^{-47}$	0.193	$3.0x10^{-73}$
Fasting insulin, pmol/L	0.155	$1.7x10^{-47}$	0.047	$1.0x10^{-5}$	-0.067	$5.5x10^{-10}$	-0.072	$2.9x10^{-11}$	-0.240	$3.7x10^{-113}$	-0.198	$3.2x10^{-77}$	0.203	$3.5x10^{-81}$	0.257	$1.2x10^{-130}$
2h Insulin, pmol/L	0.217	$2.1x10^{-92}$	0.154	$2.4x10^{-47}$	-0.009	0.392	-0.006	0.595	-0.234	$2.9x10^{-107}$	-0.211	$1.0x10^{-87}$	0.183	$1.6x10^{-65}$	0.236	$1.8x10^{-109}$
Matsuda ISI, mg/dL, mU/L	-0.200	$3.3x10^{-78}$	-0.103	$7.5x10^{-22}$	0.057	$1.5x10^{-7}$	0.065	$1.3x10^{-9}$	0.273	$6.5x10^{-147}$	0.237	$2.7x10^{-110}$	-0.230	$1.4x10^{-103}$	-0.286	$7.1x10^{-162}$
$InsAUC_{0-30}$/ GluAUC0-30, pmol/mmol	0.064	$2.2x10^{-9}$	-0.088	$2.8x10^{-16}$	-0.063	$5.1x10^{-9}$	-0.077	$9.4x10^{-13}$	-0.120	$9.5x10^{-29}$	-0.077	$7.3x10^{-13}$	0.109	$4.0x10^{-24}$	0.139	$2.3x10^{-38}$

FFA, free fatty acid; FA, fatty acid, BMI, body mass index. FPG, fasting plasma glucose; 2hPG, 2-hour plasma glucose; Matsuda ISI, Matsuda insulin sensitivity index, $InsAUC_{0-30}$/GluAUC0-30 AUC, Insulin area under curve 0-30 / Glucose area under the curve 0-30 minutes. Glycerol and fasting FFA are given in mmol/L, all others (omega 3 FAs, docosahexaenoic acid, omega-6 FAs, linoleic acid, monounsaturated FAs, and saturated FAs and omega 7&9 FAs) as percentage of total FAs. All traits were logarithmically transformed to correct for their skewed distribution, except for age.