Supplement 1: Relevant Assays

Assay	Method/Instrument	Manufacturer	Normal Range
Acetoacetate	colorimetric	Abcam (Cambridge, MA)	0.049-0.294umol/ml
Adiponectin	RIA	Millipore (Billerica, MA)	559-7271ng/mL
B-OHB	colorimetric	Cayman Chemical (Ann Arbor, MI)	0.02-1.5mM
Cholesterol			
Total	colorimetric/Cobas Integra 400 Plus	Roche Diagnostics (Indianapolis, IN)	<201 mg/dl
HDL			>55 mg/dl
LDL			<100 mg/dl
Triglycerides			<200 mg/dl
Cortisol	Immulite 1000	Siemens Healthcare Diagnostics (Deerfield, IL)	5-25 ug/dL (am)
CRP (hs)	turbidimetric/Cobas Integra 400 Plus	Roche Diagnostics (Indianapolis, IN)	<5.0mg/L
FFA	colorimetric	Wako Diagnostics (Mountain View, CA)	0.1-0.6mEq/L
FGF 21	ELISA	R&D Systems (Minneapolis, MN)	ND-914pg/ml
Glucagon	ELISA	R&D Systems (Minneapolis, MN)	ND-224pg/ml
Glucose	colorimetric/Cobas Integra 400 Plus	Roche Diagnostics (Indianapolis, IN)	74-109 mg/dL
Glycerol	colorimetric	Cayman Chemical (Ann Arbor, MI)	0.12-0.61mg/dL
IL-6	ELISA	R&D Systems (Minneapolis, MN)	0.447-9.96 pg/mL
Insulin	Immulite 1000	Siemens Healthcare Diagnostics (Deerfield, IL)	8.9-28.4 uIU/mL
Leptin	RIA	Millipore (Billerica, MA)	2-11.1ng/ml
PYY	RIA	Millipore (Billerica, MA)	
TNF-alpha	ELISA	R&D Systems (Minneapolis, MN)	0.550-2.816pg/ml

Supplement 2: Correlational Analyses

Analyses of the relationship of background diet and MMT meal type on the relationship of fasting measures of insulin sensitivity to measures derived from the MMT were made by multiple linear regression analysis in which the dynamic (MMT-derived) measure was the dependent variable and the fasting measures, diet type and meal type were each treated as dichotomous variables. Across dietary/meal combinations we found highly significant correlations of fasting and dynamic indices of insulin-sensitivity and FFA-flux, but not insulin secretion. To our knowledge, this is the first study to compare the utility of fasting and dynamic measures of these variables in subjects ingesting a ketogenic diet. The differences between conclusions regarding effects of dietary macronutrients on fuel homeostasis derived from fasting vs. MMT measures suggest that extrapolations of fasting to post-prandial measures of insulin-mediated glucose disposal are dependent on both current diet and acute meal type.

	Fasting Indices	Insulin Secretion:		Glycemic Insulin Sensitivity(fasting):		FFA-flux Insulin Sensitivity
		HOMA- β (fasting)		HOMA-IR	$Belfiore_{FAST}$	ADIPO-IR
MMT-derived Measures		Insulinogenic	ISSI-2	$Belfiore_{AUCins}$	$Belfiore_{AUCins}$	$Belfiore_{FFA}$
All Measures		R=0.18, N.S.	R=0.01, N.S.	**R=-0.46, P<0.001***	**R=0.64, P<0.001†**	**R=-0.69, P<0.001**
Baseline Diet	Baseline Meal	R=-0.07, N.S.	R=0.19, N.S.	**R=-0.82, P<0.001**	**R=0.79, P<0.001**	**R=-0.75, P<0.001**
	Ketogenic Meal	R=-0.10, N.S.	R=0.06, N.S.	**R=-0.76, P<0.001**	**R=0.79, P<0.001**	**R=-0.75, P<0.001**
Ketogenic Diet	Baseline Meal	**R=0.49, P=0.042**	R=-0.07, N.S.	**R=-0.76, P<0.001**	**R=0.62, P=0.008**	**R=-0.72, P=0.0012**
	Ketogenic Meal	R=-0.23, N.S.	R=0.04, N.S.	**R=-0.57, P=0.016**	**R=0.76, P<0.001**	**R=-0.55, P=0.005**