

**HCHS/SOL Visits 1 to 3 and Ancillary Studies: Blood and Urine Collection and Lab Assays Counts
(as of early February 2025)**

	Lab (Unit) (Variable)	Count Collected			Ancillary Study (Visit Collected)	Ancillary Study Variable
		Visit 1 (2008-2011)	Visit 2 (2014-2017)	Visit 3 (2020-2024)		
Total sample size		16,415	11,623	9,090		
Liver enzyme measures	Alanine aminotransferase (U/L) (LABA74)	16,244	11,522	1,663	SOL Liver & Heart (visit 3)	NLA74
	Aspartate aminotransferase (U/L) (LABA75)	16,243	11,489	1,592	SOL Liver & Heart (visit 3)	NLA75
	GGT (U/L) (LABA102)	16,132	11,526			
Kidney function measures	Creatinine (mg/dL) (LABA76)	16,247	11,531	5,832	SOL Liver & Heart (visit 3) + PASOS (visit 3) + SGM SOL (visit 3) PENDING PASOS BATCH 3	NLA76 + CREATININE + CREATININE_AVAIL_V3
	eGFR (LABA77)	16,247				
	Cystatin C (mg/L) (LABA101)	16,134	11,531	3,037	PASOS (visit 3); PENDING PASOS BATCH 3	CYSTATIN
Lipid measures	Total cholesterol (mg/dL) (LABA66)	16,248	11,530	8,990		
	Triglycerides (mg/dL) (LABA67/LABA107)	16,248	11,530	8,987		
	HDL-cholesterol (mg/dL) (LABA68)	16,246	11,531	8,988		
	LDL-cholesterol (mg/dL) (LABA69)	15,918	11,324	8,862		
	Lipoprotein (a) Molar (nmol/L)	14,951			Relation of Lipids, Apolipoproteins and Lp(a) with Risk of Atherosclerotic Cardiovascular Disease (visit 1) AS#2019.12	RESULT
	Apolipoprotein B (mg/dL)	16,139			Relation of Lipids, Apolipoproteins and Lp(a) with Risk of Atherosclerotic Cardiovascular Disease (visit 1) AS#2019.12	APOB
Diabetes-related measures	Glucose, fasting (mg/dL) (LABA70)	16,220	11,500	8,941		
	Glucose, post OGTT (mg/dL) (LABA71)	13,272	8,223			
	% Glycosylated Hemoglobin (LABA72)	16,208	11,495	8,966		
	Insulin, fasting (pmol/L) (INSULIN_FAST, LABA96)	16,173	11,495	2,378	SOL VIDA (visit 3)	INSULIN_FAST_V3
Iron-related measures	Iron (ug/dL) (LABA82)	16,243				
	Total Iron Bindind Capacity (TIBC) (ug/dL) (LABA83)	16,243				
	% Transferrin saturation (LABA84)	16,243				
	Ferritin (ug/L) (LABA103)	15,961				
Inflammatory measures	High-sensitivity C-Reactive Protein (mg/L) (LABA91)	16,243	5,815	1,284	GREENNESS AS#2017.15 (visit 2, Miami and San Diego), SGM SOL (visit 3)	CRP, HSCRP_V3
Hematological measures	White Blood Count (x10e9) (LABA1)	15,218	11,454	1,656	SOL Liver & Heart (visit 3)	NLA1
	Red Blood Count (x10e12) (LABA2)	16,138	11,484	1,658	SOL Liver & Heart (visit 3)	NLA2
	Hemoglobin (g/dL) (LABA3)	16,137	11,492	1,658	SOL Liver & Heart (visit 3)	NLA3
	% Hematocrit (LABA4)	16,138	11,483	1,658	SOL Liver & Heart (visit 3)	NLA4
	Mean Corpuscular Volume (fl) (LABA5)	16,138	11,481	1,657	SOL Liver & Heart (visit 3)	NLA5
	Mean Corpuscular Hemoglobin (pg) (LABA6)	16,137	11,421	1,649	SOL Liver & Heart (visit 3)	NLA6
	Mean Corpuscular Hemoglobin Concentration (g/dL)(LABA7)	16,137	10,807	1,613	SOL Liver & Heart (visit 3)	NLA7
	% Red Cell Distribution Width (LABA8)	16,136	11,477	1,658	SOL Liver & Heart (visit 3)	NLA8
	Platelet Count (x10e9) (LABA9)	16,126	11,450	1,644	SOL Liver & Heart (visit 3)	NLA9
	% Neutrophils (LABA10)	15,215	11,437	1,655	SOL Liver & Heart (visit 3)	NLA10
	% Lymphocytes (LABA11)	15,215	11,440	1,656	SOL Liver & Heart (visit 3)	NLA11
	% Monocytes (LABA12)	15,221	11,439	1,656	SOL Liver & Heart (visit 3)	NLA12
	% Eosiniphils (LABA13)	15,217	11,440	1,655	SOL Liver & Heart (visit 3)	NLA13
	% Basophils (LABA14)	15,195	11,440	1,656	SOL Liver & Heart (visit 3)	NLA14
	Neutrophil Count (x10e9)(LABA23)	15,216	11,437	1,655	SOL Liver & Heart (visit 3)	NLA23
	Lymphocyte Count (x10e9) (LABA24)	15,215	11,440	1,656	SOL Liver & Heart (visit 3)	NLA24
	Monocyte Count (x10e9) (LABA25)	15,222	11,438	1,656	SOL Liver & Heart (visit 3)	NLA25
	Eosinophil Count (x10e9) (LABA26)	15,218	11,441	1,655	SOL Liver & Heart (visit 3)	NLA26
	Basophil Count (x10e9) (LABA27)	15,196	11,437	1,656	SOL Liver & Heart (visit 3)	NLA27
	Immature Granulocytes (%) (LABA99)	2,584	357			

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	Lab (Unit) (Variable)	Count Collected			Ancillary Study (Visit Collected)	Ancillary Study Variable	
		Visit 1 (2008-2011)	Visit 2 (2014-2017)	Visit 3 (2020-2024)			
	Absolute Immature Granulocytes (x10e9) (LABA100)	2,584	357				
	Mean platelet volume (fL) (LABA105)		10,925	1,637	SOL Liver & Heart (visit 3)	NLA105	
	Platelet distribution width (fL) (LABA106)		10,800	1,629	SOL Liver & Heart (visit 3)	NLA106	
Serologic measures	Hepatitis A serology (Hep A Total Antibody) (LABA85)	12,803					
	Hepatitis B "serology" (Hep B surface antigen) (LABA86)	994					
	Hepatitis C serology (Hep C Antibody) (LABA87)	12,013					
	Hepatitis B Core Antibody (LABA92)	12,013					
	Hepatitis B Surface Antibody (LABA93)	12,013					
	HCVABX - Hepatitis C antibody index (LABA94)	9,478					
	H.Pylori IgG assay (EIU)	16,144			<i>H pylori</i> Infection in the HCHS/SOL (visit 1) AS# 2016.08	HPYLORI_IGG_RESULT	
Endogenous hormone measures	Thyrotropin - TSH (mIU/L)	1,353			POPS (visit 1)	THYROTROPIN__TSH__MIU_L_	
	Free Thyroxine - FT4 (ng/dL)	1,352			POPS (visit 1)	FREE_THYROXINE__FT4__NG_DL_	
	Total Triiodothyronine - T3 (ng/dL)	1,353			POPS (visit 1)	TOTAL_TRIIODOTHYRONINE__T3__NG_	
	Luteinizing Hormone - LH (mIU/mL)	1,351			POPS (visit 1)	LUTEINIZING_HORMONE__LH__MIU_ML	
	Follicle-Stimulating Hormone - FSH (mIU/mL)	1,352			POPS (visit 1)	FOLLICLE_STIMULATING_HORMONE__F	
	Sex-Hormone Binding Globulin - SHBG (nmol/L)	1,353			POPS (visit 1)	SEX_HORMONE_BINDING_GLOBULIN__S	
	Estradiol - E2 (pmol/L)	1,353			POPS (visit 1)	ESTRADIOL__E2__PMOL_L_	
	Dehydroepiandrosterone Sulfate - DHEAS (umol/L)	1,353			POPS (visit 1)	DEHYDROEPIANDROSTERONE_SULFATE__	
	Testosterone - TESTO (ng/dL)	646			POPS (visit 1)	TESTOSTERONE__TESTO__NG_DL_	
	FGF-23 Intact (pg/mL)	1,204			SDB FGF23 (visit 1) AS#2015.14	FGF23_Intact	
	FGF-23 C-Terminal (RU/mL)	1,204			SDB FGF23 (visit 1) AS#2015.14	FGF23_C_Terminal	
	Urine	Urine creatinine, random (mg/dL) (LABA79)	16,211	11,559	2,927	PASOS (visit 3) PENDING PASOS BATCH 3	
		Urine microalbumin, random (mg/dL) (LABA80)	15,547	11,370	2,927	PASOS (visit 3) PENDING PASOS BATCH 3	ALBUMIN
Albumin/creatinine ratio (mg/g) (LABA81)		15,549	11,372	2,927	PASOS (visit 3) PENDING PASOS BATCH 3		
Other	Cholesterol (mg/dL)	475			SOLNAS (visit 1)	BIO_CHOL	
	Triglycerides (mg/dL)	475			SOLNAS (visit 1)	BIO_TRIG	
	Urine Potassium (mmol/L)	474			SOLNAS (visit 1)	BIO_K	
	Nitrogen (mg/mL)	476			SOLNAS (visit 1)	BIO_N	
	Urine Sodium (mmol/L)	474			SOLNAS (visit 1)	BIO_NA	
	Vitamin B12 (pg/ml)	471			SOLNAS (visit 1)	BIO_VB12	
	Folate (nmol/L)	465			SOLNAS (visit 1)	BIO_FOLATE	
	Zeaxanthin (µg/dL)	476			SOLNAS (visit 1)	BIO_ZEAXANTHIN	
	Cryptoxanthin (µg/dL)	476			SOLNAS (visit 1)	BIO_CRYPTOXANTHIN	
	Lycopene (µg/dL)	476			SOLNAS (visit 1)	BIO_LYCOPENE	
	alpha-carotene (µg/dL)	476			SOLNAS (visit 1)	BIO_ALPHA_CAROTENE	
	beta-carotene (µg/dL)	476			SOLNAS (visit 1)	BIO_BETA_CAROTENE	
	alpha-tocopherol (mg/dL)	476			SOLNAS (visit 1)	BIO_ALPHA_TOCOPHEROL	
	gamma-tocopherol (mg/dL)	476			SOLNAS (visit 1)	BIO_GAMMA_TOCOPHEROL	
	Retinol (µg/dL)	458			SOLNAS (visit 1)	BIO_RETINOL	
	Retinyl_Palmitate(µg/dL)	255			SOLNAS (visit 1)	BIO_RETINYL_PALM	
	Fructose (mg/L)	476			SOLNAS (visit 1)	BIO_FRUCTOSE	
	Glucose (mg/L)	476			SOLNAS (visit 1)	BIO_GLUCOSE	
Sucrose (mg/L)	476			SOLNAS (visit 1)	BIO_SUCROSE		