

(with Form 301 data⁶)

Test name	Ppts	Timing of Blood Draw				Type of Specimen ³					# of Labs ⁴
		Baseline	AV1	AV3	Other (non-LLS visits)	Serum	Citrate	Edta	RBC	Urine	
Adip HMW	136	22	0	116	0	116	0	22	0	0	2
Adiponectin	724	629	0	252	0	357	70	334	0	0	6
ANA pos/neg	716	716	0	0	0	716	0	0	0	0	1
Anti-CCP	725	725	0	0	0	725	0	0	0	0	1
Anti-CCP pos/neg	725	725	0	0	0	725	0	0	0	0	1
APC-ETP	362	339	240	0	2	0	362	0	0	0	1
Apo A1	293	293	0	0	0	82	0	214	0	0	3
ApoA1 CIT	146	146	0	0	0	0	0	146	0	0	1
APOE	146	146	0	0	0	0	0	146	0	0	1
APOE CIT	146	146	0	0	0	0	0	146	0	0	1
Apolipo E277-296	146	146	0	0	0	0	0	146	0	0	1
ATIII	289	283	205	0	0	0	289	0	0	0	1
B2M	317	317	190	9	9	89	228	0	0	0	2
BIGlycan 247-266	146	146	0	0	0	0	0	146	0	0	1
Carotene, alpha	960	902	788	728	823	960	0	0	0	0	3
Carotene, beta	956	898	788	728	823	956	0	0	0	0	2
CCP	146	146	0	0	0	0	0	146	0	0	1
CFD	113	113	86	9	9	0	113	0	0	0	1
Chol, 27-OH	271	271	0	0	0	271	0	0	0	0	1
Cholesterol	7827	7822	1006	886	821	7800	0	1608	0	0	5
Clusterin 231	146	146	0	0	0	0	0	146	0	0	1
Creatinine	7797	7797	34	5	0	7797	31	14	0	91	6
CRP	7824	7824	266	176	0	7807	581	717	0	0	13
Cryptoxan, beta	892	871	787	728	786	892	0	0	0	0	1
CTX	191	191	0	0	0	191	0	0	0	0	1
Cystatin-C	187	187	0	0	0	187	0	0	0	0	2
D-dimers	391	390	238	0	0	0	362	32	0	0	4
ENO1A cyclic	146	146	0	0	0	0	0	146	0	0	1
Eotaxin	116	116	0	0	0	116	0	0	0	0	2
E-Selectin	620	616	217	0	0	0	27	596	0	0	2
Estradiol (E2)	1682	1677	309	3	0	1682	0	0	0	0	4
Estradiol, bioavailable	1260	1254	306	3	0	1260	0	0	0	0	2
Estradiol, free	1245	1239	294	3	0	1245	0	0	0	0	1
Estrone (E1)	438	436	311	0	1	438	0	0	0	0	2
Estrone sulfate	295	269	260	3	1	295	0	0	0	0	2
Estrone, 16a-OH	551	550	266	0	0	551	0	0	0	0	1
Estrone, 2-OH	551	551	265	0	0	551	0	0	0	0	1
F1+2	334	318	225	0	0	0	334	0	0	0	2
FA alpha linolenic acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA arachidonic acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA cis, trans linoleic acid	2155	2155	403	0	0	0	0	0	2155	0	1
FA docosahexaenoic acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA Docosanoic Acid	2155	2155	403	0	0	0	0	0	2155	0	1
FA docosapentaenoic acid n3	2167	2167	403	0	0	0	0	0	2167	0	2
FA docosapentaenoic acid n6	2155	2155	403	0	0	0	0	0	2155	0	1

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FA Docosatraenoic Acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA eicosadienoic acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA eicosanoic acid	2155	2155	403	0	0	0	0	0	2155	0	1
FA eicosapentaenoic acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA eicosatrienoic acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA eicosenoic acid	2155	2155	403	0	0	0	0	0	2155	0	1
FA gamma linolenic acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA Lignoceric acid	2155	2155	403	0	0	0	0	0	2155	0	1
FA Linoleic acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA myristic acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA nervonic acid	2155	2155	403	0	0	0	0	0	2155	0	1
FA oleic acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA Omega3 Index	2155	2155	403	0	0	0	0	0	2155	0	1
FA Palmitic acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA palmitoleic acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA stearic acid	2167	2167	403	0	0	0	0	0	2167	0	2
FA trans linoleic acid	2155	2155	403	0	0	0	0	0	2155	0	1
FA trans, cis linoleic Acid	2155	2155	403	0	0	0	0	0	2155	0	1
FA trans-oleic acid	2155	2155	403	0	0	0	0	0	2155	0	1
FA Trans-palmitoleic acid	2155	2155	403	0	0	0	0	0	2155	0	1
Fibrinogen	1411	1350	974	699	768	55	1231	146	0	0	5
Fibrinogen A 211-230	146	146	0	0	0	0	0	146	0	0	1
Fibrinogen A 41-60	146	146	0	0	0	0	0	146	0	0	1
Fibrinogen A 556-575	146	146	0	0	0	0	0	146	0	0	1
Fibrinogen A 616-635	146	146	0	0	0	0	0	146	0	0	1
Fibrinogen A-CIT	146	146	0	0	0	0	0	146	0	0	1
Filaggrin 48-65	146	146	0	0	0	0	0	146	0	0	1
FIX Conc	292	292	0	0	0	0	292	0	0	0	1
Folate	109	34	31	0	44	44	31	34	0	0	4
FVII Ag	904	846	756	701	766	0	904	0	0	0	1
FVII:C	926	866	752	698	769	0	926	0	0	0	1
FVIII Activity	336	335	238	0	0	0	336	0	0	0	2
Ghrelin	115	0	0	115	0	115	0	0	0	0	1
Glucose	7830	7823	1113	991	787	7824	0	596	0	0	5
GM-CSF	180	180	0	0	0	35	0	146	0	0	3
Granulocyte Colony-Stim Fctr	224	224	0	0	0	79	0	146	0	0	2
H2A/a 1-20	146	146	0	0	0	0	0	146	0	0	1
H2B/a 62-81	146	146	0	0	0	0	0	146	0	0	1
HDL2	1203	1148	986	723	780	0	0	1203	0	0	1
HDL3	1203	1148	988	723	780	0	0	1203	0	0	1
HDLC	7828	7821	1005	990	784	7799	0	1721	0	0	6
HGF	163	163	0	0	0	36	127	0	0	0	2
Histones2B	146	146	0	0	0	0	0	146	0	0	1
Homocysteine	427	396	268	0	0	2	31	394	0	0	5
HPX	116	116	99	0	0	0	116	0	0	0	1

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HSP60	146	146	0	0	0	0	0	146	0	0	1
ICAM-1	129	129	16	0	0	98	0	31	0	0	3
IGF Free	166	166	0	0	0	166	0	0	0	0	2
IGFBP-1	185	185	101	8	7	28	113	45	0	0	4
IGFBP-2	133	132	112	0	0	16	117	0	0	0	1
IGFBP-3	157	157	6	0	0	62	58	41	0	0	6
IGFBP-4	138	138	121	0	0	22	116	0	0	0	1
IGFBP-6	120	117	99	0	0	6	114	0	0	0	1
IGF-I	174	174	16	0	0	78	58	41	0	0	7
IL-10	388	388	0	0	0	247	0	146	0	0	4
IL-12p70	158	158	0	0	0	12	0	146	0	0	2
IL-13	222	222	0	0	0	77	0	146	0	0	3
IL-16	118	118	0	0	0	118	0	0	0	0	2
IL-17	158	158	0	0	0	13	0	146	0	0	2
IL-1B	453	438	0	124	0	20	0	434	0	0	5
IL-1RA	102	102	0	0	0	81	0	21	0	0	2
IL-2	188	188	0	0	0	42	0	146	0	0	3
IL-4	197	197	0	0	0	51	0	146	0	0	3
IL-5	206	206	0	0	0	60	0	146	0	0	3
IL-6	1173	1166	216	148	0	50	100	1055	0	0	8
IL-6SR	250	250	0	0	0	198	0	56	0	0	2
Insulin	7610	7598	1084	811	785	7598	58	329	0	0	10
interferon, gamma	205	205	0	0	0	61	0	146	0	0	3
Interleukin-7	219	219	0	0	0	74	0	146	0	0	3
Interleukin-8	237	237	0	0	0	93	0	146	0	0	3
LDL Cholesterol (total)	115	0	0	115	0	0	0	115	0	0	1
LDLC	7762	7750	992	878	777	7727	0	1347	0	0	6
Leptin	700	620	0	253	0	487	127	154	0	0	5
Leptin receptor	329	329	0	0	0	329	0	0	0	0	1
Lipo-HDL	293	283	212	0	0	0	0	293	0	0	1
Lipo-LDL1	293	283	212	0	0	0	0	293	0	0	1
Lipo-LDL2	293	283	212	0	0	0	0	293	0	0	1
Lipo-LDL3	293	283	212	0	0	0	0	293	0	0	1
Lipo-LDL4	293	283	212	0	0	0	0	293	0	0	1
Lipo-LDL5	293	283	212	0	0	0	0	293	0	0	1
Lipo-LDL6	293	283	212	0	0	0	0	293	0	0	1
Lipo-LDL7	293	283	212	0	0	0	0	293	0	0	1
Lipo-MIDA	293	283	212	0	0	0	0	293	0	0	1
Lipo-MIDB	293	283	212	0	0	0	0	293	0	0	1
Lipo-MIDC	293	283	212	0	0	0	0	293	0	0	1
Lipo-VLDL	293	283	212	0	0	0	0	293	0	0	1
Lp(a)	1262	1208	971	709	783	0	0	1262	0	0	3
LT_APC	367	350	246	0	2	0	367	0	0	0	1
Lutein+Zeaxanthin	919	898	788	728	786	919	0	0	0	0	2
Lycopene	892	871	788	728	786	892	0	0	0	0	1

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Test name	Ppts	Timing of Blood Draw				Type of Specimen ³					# of Labs ⁴
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Macrophage Inflammatory Pr	226	226	0	0	0	82	0	146	0	0	2
MCP-1	226	226	0	0	0	82	0	146	0	0	2
MMP-9	310	310	222	0	0	310	0	0	0	0	2
NAPCSR	360	337	238	0	2	0	360	0	0	0	1
NMR-HDL Size ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-HDL total ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-IDL ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-LDL Size ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-LDL Total ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-Lg HDL ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-Lg LDL ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-Lg VLDL ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-Med HDL ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-Med Sm LDL ⁵	268	154	85	116	0	0	0	268	0	0	1
NMR-Med VLDL ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-Sm HDL ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-Sm LDL (total) ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-Sm VLDL ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-V Sm LDL ⁵	268	154	85	116	0	0	0	268	0	0	1
NMR-VLDL Size ⁵	296	192	85	107	0	17	0	288	0	0	1
NMR-VLDL trig ⁵	304	192	85	115	0	17	0	296	0	0	1
NMR-VLDLCP Total ⁵	304	192	85	115	0	17	0	296	0	0	1
ORM1	113	113	86	9	9	0	113	0	0	0	1
PAI-1	125	125	0	0	0	82	43	0	0	0	2
PAI-1 Ag	341	327	227	0	0	0	341	0	0	0	2
PAP	318	304	226	0	0	0	318	0	0	0	1
PINP	189	189	0	0	0	189	0	0	0	0	1
Progesterone	426	425	39	0	0	426	0	0	0	0	2
Protein C	206	206	0	0	0	0	206	0	0	0	1
Protein S Free	206	206	0	0	0	0	206	0	0	0	1
Protein S Total	205	205	0	0	0	0	205	0	0	0	1
Prothrombin Ag	292	287	210	0	0	0	292	0	0	0	1
PTH	191	191	0	0	0	0	0	191	0	0	1
Resistin	215	212	0	147	0	0	70	148	0	0	2
Retinol	924	903	788	728	786	924	0	0	0	0	3
Rheumatoid Factor	723	723	0	0	0	723	0	0	0	0	1
Rheumatoid Factor pos/neg	723	723	0	0	0	723	0	0	0	0	1
SHBG	1632	1630	312	3	1	1632	0	0	0	0	4
SICAM-1	450	450	0	0	0	0	0	450	0	0	1
TAFI	327	323	235	0	0	0	327	0	0	0	1
Testosterone	824	823	35	3	1	824	0	0	0	0	3
Testosterone, bioavail	508	505	22	3	0	508	0	0	0	0	1

WHI Long Life Study: Biomarker Assays on Participants^{1,2}
(with Form 301 data⁶)

Updated 3/21/14 (MH)

Test name	Ppts	Timing of Blood Draw				Type of Specimen ³					# of Labs ⁴
		Baseline	AV1	AV3	Other (non - LLS visits)	Serum	Citrate	Edta	RBC	Urine	
Testosterone, free	508	505	22	3	0	508	0	0	0	0	1
TFPI activity	391	384	308	0	2	0	391	0	0	0	1
TFPI, free	392	386	307	0	2	0	392	0	0	0	1
TFPI, total	390	382	308	0	2	0	390	0	0	0	1
THBS1	125	116	82	7	8	21	104	0	0	0	2
TNF-A	452	452	0	0	0	66	250	146	0	0	6
TNF-R1	354	353	0	148	0	190	0	167	0	0	2
TNF-R2	784	784	0	148	0	261	0	592	0	0	4
Tocopherol, alpha	961	903	788	728	823	961	0	0	0	0	3
Tocopherol, gamma	989	903	819	728	823	961	31	0	0	0	4
Trig	7825	7819	1006	990	784	7800	0	1503	0	0	6
TSH	151	151	0	0	0	151	0	0	0	0	3
VCAM-1	421	421	0	0	0	82	0	353	0	0	4
Vimentin 58-77	146	146	0	0	0	0	0	146	0	0	1
Vimentin-CIT	146	146	0	0	0	0	0	146	0	0	1
Vit D 25-OH	949	248	640	248	0	942	0	7	0	0	7
VitD Binding	205	205	0	0	0	205	0	0	0	0	2
vWF	410	408	237	0	0	82	329	0	0	0	2

¹ A total of 5,362 assays have one or more results for the WHI LLS population. This report is limited to assays with results for at least 100 participants.

² Per WHI Ancillary Study policy, these assay results may or may not be available for use in manuscripts or future Ancillary Stud

³ Indicates the type of sample tested. Counts may sum to higher than the number of participants due to testing at multiple timepoints or multiple testing at one timepoint.

⁴ Users need to take into account the number of labs as results may differ by lab, by lab assays method, and by sample type.

⁵ NMR assays refers to Nuclear Magnetic Resonance spectroscopy assay.

⁶ The total number of women participating in the Long Life Study is 7,875.