SpectraCell Laboratories
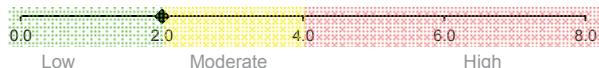### Science + Health + Solutions

CardioMetabolic Sample Report

Patient Name:		BMI:	28	Batch Number:	
Patient DOB:	5/23/1955	Gender:	M	Accession Number:	
Physician				Date Collected:	2/6/2014
				Report Date:	2/20/2014

Pre-Diabetic Risk Score — 2.0

Low — Moderate — High (scale 0.0 – 8.0)

This score is a way to estimate your risk of developing diabetes and associated complications such as heart disease or stroke. It is based upon your test results in the pre-diabetes and lipoprotein profile sections of this report, which are indicators of your ability to metabolize food (glycemic control) and transport fats (lipoproteins) in your blood. The following tests have the largest impact on your pre-diabetes risk score: hemoglobin A1c, fasting blood sugar and metabolic syndrome traits. Factors that significantly affect your pre-diabetic risk but that are not included in this report include weight, blood pressure (hypertension), smoking, inflammation and family history.

Pre-Diabetes Biomarkers

	Patient Results K90072	Patient Results M12106	Patient Results M60646	Reference Value
Insulin (µIU/mL)	3.5	6.7	10.5	<21.0
Glucose (mg/dL)	0	0	88	70-105
Hemoglobin A1c (%)	0.0	0.0	5.2	<5.6
C-Peptide (ng/mL)	0.00	0.00	2.00	0.70-7.10
Adiponectin* (µg/mL)	0.0	0.0	3.3	5.5-20.0
Metabolic Syndrome Traits	1	3	3	0

Clinical Indications: Pre-Diabetes Biomarkers

These tests identify metabolic abnormalities that may progress into diabetes if not addressed. Pre-diabetes is a condition where the body cannot efficiently metabolize foods, especially carbohydrates, resulting in impaired glycemic (blood sugar) control. Fasting glucose is a snapshot of blood sugar levels at the time your blood is collected. Hemoglobin A1C reflects your blood glucose levels over the prior three months. Prolonged elevated blood sugar will raise your hemoglobin A1C. Metabolic syndrome traits increase if you have any of the following: elevated triglycerides, low HDL or high LDL. Adiponectin is a beneficial hormone that promotes healthy metabolism of carbohydrates (sugars) and triglycerides (fats).

Lipid Panel (mg/dL)

	Patient Results K90072	Patient Results M12106	Patient Results M60646	Reference Value
Total Cholesterol	189	204	176	<200
LDL - Cholesterol	120	97	98	40 - 130
HDL - Cholesterol	44	38	37	>40
Triglycerides	125	311	210	30 - 150
Non - HDL - Chol (calc)	145	166	139	<160

Clinical Indications: Lipid Panel

The basic Lipid Panel is a very general marker for cardiometabolic risk. This lipid panel directly measures cholesterol, not lipoproteins (which carry cholesterol.) It is now recognized that measuring lipoproteins is a more accurate and precise way to evaluate your cardiometabolic risk than measuring cholesterol since cholesterol values are normal in over 50% of people who have a heart attack or stroke. But this standard lipid panel is helpful when viewed in the context of other biomarkers, particularly your lipoprotein particle numbers. Lowering LDL-cholesterol is currently the primary target of treatment. However, elevated triglycerides and low HDL-cholesterol are highly associated with metabolic syndrome, which negatively impacts your pre-diabetic risk score.

Vascular Inflammation Biomarkers

	Patient Results			Reference Value
	K90072	M12106	M60646	
Apo B-100 (mg/dL)	98	95	86	40 - 100
Lp(a) (mg/dL)	7.6	7.1	7.8	6.0 - 29.9
C-Reactive Protein-hs (mg/L)	1.6	2.7	1.1	<3.0
Homocysteine (mg/dL)	10.2	10.0	9.6	<11.0

Clinical Indications: Vascular Inflammation BioMarkers

These factors are important determinants of cardiometabolic risk, particularly with respect to vascular inflammation (health of blood vessels). Apo-B (apolipoprotein B100) is a measure of all atherogenic (harmful) lipoprotein particles in the blood. Lp(a) is an extremely atherogenic lipoprotein that is strongly linked to developing thrombosis (blood clots). C-reactive protein (CRP) is an indicator of inflammation throughout the body, including the cardiovascular system. Regardless of the cause, both physical and mental stressors, infections and low grade chronic inflammation can all raise CRP, which increases cardiometabolic risk. Finally, homocysteine is a harmful protein that indicates a person's ability to methylate (detoxify) substances in the body may be impaired. Elevated homocysteine is linked to heart disease, atherosclerosis, thyroid dysfunction and Alzheimers disease (dementia).

LipoproteinParticle Numbers (nmol/L)

	Patient Results			Reference Value
	K90072	M12106	M60646	
VLDL Particles	81	212	122	<85
Total LDL Particles	874	728	786	<900
Non - HDL Particles	955	940	908	<1000
RLP (Remnant Lipoprotein)	168	175	130	<150
Small - Dense LDL III	333	384	300	<300
Small - Dense LDL IV	72	65	105	<100
Total HDL Particles	7736	6867	7266	>7000
Large - Buoyant HDL 2b	1607	1330	1410	>1500

Clinical Indications: Lipoprotein Particle Numbers

It is now recognized that measuring cholesterol, which is carried by lipoproteins, is insufficient for accurately quantifying a person's cardiometabolic risk. Lipoproteins are significant factors in causing heart disease and stroke and your lipoprotein particle numbers are much more clinically relevant than cholesterol levels.   In particular, elevated small-dense LDL and RLP are the most strongly linked to heart attack and stroke. Conversely, large-buoyant HDL2b are protective and indicate how well HDL is clearing excess cholesterol from the body. This information reveals potential cardiovascular problems that are often missed when only using a standard lipid panel to assess risk.

Comments: See Micronutrient Test report for additional vitamin, mineral, antioxidant and other micronutrients contributing to pre-diabetes risk and lipid risk factors.

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