

# BiophysicalCA/ CV™

BiophysicalCA/ CV includes the following cancer-associated biomarkers

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CA 125	CEA	PSA, Total	MMP2
CA 15-3	AFP	beta-hCG	MMP9
CA 19-9	NSE	VEGF	IL-6

BiophysicalCA/ CV includes the following cardiovascular-associated biomarkers

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Sum Total Cholesterol	Total Non-HDL (LDL + VLDL)	LDL Real Cholesterol	HDL-3
Total LDL - Direct	Total ApoB100 calc	Real LDL-C Size pattern	VLDL-3
Total HDL - Direct	Sum Total LDL-C	Remnant Lipoproteins (IDL + VLDL3)	CRP
Total VLDL - Direct	Lipoprotein (a)	HDL-2	Glucose
Triglycerides - Direct	IDL Cholesterol		

# Biophysical **SEX&ENERGY**<sup>TM</sup>

BiophysicalSex&Energy includes the following biomarkers:

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## **DIABETES**

Glucose  
Hemoglobin A1c (Hgb A1c)  
Insulin  
C-peptide

## **WEIGHT-RELATED**

Pancreatic Polypeptide (PP)  
Glucagon-Like Polypeptide 1 (GLP-1)  
Leptin  
Resistin

## **THYROID**

Thyroid Stimulating Hormone (TSH)  
Free Thyroxine (Free T4)  
Free Triiodothyronine (Free T3)

## **HEMATOLOGY**

Complete Blood Count (CBC)  
Ferritin

## **HORMONES**

Estradiol  
Progesterone  
DHEA-S  
Prolactin  
Follicle Stimulating Hormone (FSH)  
Luteinizing Hormone (LH)  
Sex Hormone Binding Globulin (SHBG)  
Testosterone, Total  
Testosterone, Bioavailable  
Cortisol

## **ORGAN – LIVER, KIDNEY, GASTROINTESTINAL**

Gastrin  
Vitamin B12  
Vitamin D 25 OH  
Comprehensive Metabolic Panel (CMP)  
Blood Urea Nitrogen (BUN)  
Creatinine  
BUN/Creatinine  
Sodium  
Potassium  
Chloride  
Carbon Dioxide  
Calcium  
Protein, Total  
Albumin  
Globulin, Calculated  
Albumin/Globulin ratio  
Bilirubin  
Alkaline Phosphatase (ALP)  
Aspartate Aminotransferase (AST)  
Alanine Aminotransferase (ALT)

# Biophysicalcheck™

BiophysicalCheck includes the following biomarkers:

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## **CANCER ASSOCIATED**

Cancer Antigen 125 (CA-125)  
Cancer Antigen 15-3 (CA-15-3)  
Cancer Antigen 19-9 (CA-19-9)  
Carinoembryonic Antigen (CEA)  
Alpha Fetoprotein (AFP)  
Neuron Specific Enolase (NSE)  
Prostate Specific Antigen, Total (PSA, Total)  
Human Chorionic Gonadotropin (Beta-HCG)  
Vascular Endothelial Growth Factor (VEGF)  
Matrix Metalloproteinase 2 (MMP-2)  
Matrix Metalloproteinase 9 (MMP-9)  
Interleukin 6 (IL-6)

## **CARDIOVASCULAR/STROKE**

Sum Total Cholesterol  
Total LDL - Direct  
Total HDL - Direct  
Total VLDL - Direct  
Triglycerides - Direct  
Total Non-HDL (LDL + VLDL)  
Total Apoplipoprotein B100, Calculated  
Sum Total LDL-C  
Lipoprotein (a) (Lp(a))  
IDL Cholesterol  
LDL Real Cholesterol  
Real LDL-C Size pattern  
Remnant Lipoproteins (IDL + VLDL3)  
HDL-2  
HDL-3  
VLDL-3  
C-Reactive Protein, High Sensitivity (hs-CRP)

## **DIABETES**

Glucose  
Hemoglobin A1C (Hgb A1c)  
Insulin  
C-peptide

## **WEIGHT-RELATED**

Pancreatic Polypeptide (PP)  
Glucagon-Like Polypeptide 1 (GLP-1)  
Leptin  
Resistin

## **THYROID**

Thyroid Stimulating Hormone (TSH)  
Free Thyroxine (Free T4)  
Free Triiodothyronine (Free T3)

## **HEMATOLOGY**

Complete Blood Count (CBC)  
Ferritin

## **HORMONES**

Estradiol  
Progesterone  
DHEA-S  
Prolactin  
Follicle Stimulating Hormone (FSH)  
Luteinizing Hormone (LH)  
Sex Hormone Binding Globulin (SHBG)  
Testosterone, Total  
Testosterone, Bioavailable  
Cortisol

## **ORGAN – LIVER, KIDNEY, GASTROINTESTINAL**

Gastrin  
Vitamin B12  
Vitamin D 25 OH  
Comprehensive Metabolic Panel (CMP)  
Blood Urea Nitrogen (BUN)  
Creatinine  
BUN/Creatinine  
Sodium  
Potassium  
Chloride  
Carbon Dioxide  
Calcium  
Protein, Total  
Albumin  
Globulin, Calculated  
Albumin/Globulin ratio  
Bilirubin  
Alkaline Phosphatase (ALP)  
Aspartate Aminotransferase (AST)  
Alanine Aminotransferase (ALT)

# Biophysicalcore™

BiophysicalCore includes the following biomarkers:

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## **CANCER ASSOCIATED**

Cancer Antigen 125 (CA-125)  
Cancer Antigen 15-3 (CA-15-3)  
Cancer Antigen 19-9 (CA-19-9)  
Carcinoembryonic Antigen (CEA)  
Alpha Fetoprotein (AFP)  
Neuron Specific Enolase (NSE)  
Prostate Specific Antigen, Total (PSA, Total)  
Human Chorionic Gonadotropin (Beta-HCG)  
Vascular Endothelial Growth Factor (VEGF)  
Matrix Metalloproteinase 2 (MMP-2)  
Matrix Metalloproteinase 9 (MMP-9)  
Interleukin 6 (IL-6)

## **CARDIOVASCULAR/STROKE**

Sum Total Cholesterol  
Total LDL - Direct  
Total HDL - Direct  
Total VLDL - Direct  
Triglycerides - Direct  
Total Non-HDL (LDL + VLDL)  
Total Apolipoprotein B100, Calculated  
Sum Total LDL-C  
Lipoprotein (a) (Lp(a))  
IDL Cholesterol  
LDL Real Cholesterol  
Real LDL-C Size pattern  
Remnant Lipoproteins (IDL + VLDL3)  
HDL-2  
HDL-3  
VLDL-3  
C-Reactive Protein, High Sensitivity (hs-CRP)  
Homocysteine

## **DIABETES**

Glucose  
Hemoglobin A1C (Hgb A1c)  
Insulin  
C-peptide  
Insulin Antibody  
Pancreatic Islet Cell Antibody

## **METABOLIC SYNDROME**

Triglycerides - Direct  
Glucose  
Total HDL - Direct

## **WEIGHT-RELATED**

Pancreatic Polypeptide (PP)  
Glucagon-Like Polypeptide 1 (GLP-1)  
Leptin  
Resistin

## **THYROID**

Thyroid Stimulating Hormone (TSH)  
Free Thyroxine (Free T4)  
Free Triiodothyronine (Free T3)  
Thyroglobulin Antibody  
Thyroid Microsomal Antibody

## **HEMATOLOGY**

Complete Blood Count (CBC)  
Ferritin

## **HORMONES**

Estradiol  
Progesterone  
DHEA-S  
Prolactin  
Follicle Stimulating Hormone (FSH)  
Luteinizing Hormone (LH)  
Sex Hormone Binding Globulin (SHBG)  
Testosterone, Total  
Testosterone, Bioavailable  
Cortisol

## **IMMUNE**

Immunoglobulin E

## **ORGAN – LIVER, KIDNEY, GASTROINTESTINAL**

Gastrin  
Vitamin B12  
Vitamin D 25 OH  
tTG Antibody  
Helicobacter Pylori Antibody (H. pylori Ab)  
Comprehensive Metabolic Panel (CMP)  
Blood Urea Nitrogen (BUN)  
Creatinine  
BUN/Creatinine  
Sodium  
Potassium  
Chloride  
Carbon Dioxide  
Calcium  
Protein, Total  
Albumin  
Globulin, Calculated  
Albumin/Globulin ratio  
Bilirubin  
Alkaline Phosphatase (ALP)  
Aspartate Aminotransferase (AST)  
Alanine Aminotransferase (ALT)

## **AUTOIMMUNE**

Beta-2-Glycoprotein Antibody  
Double Stranded DNA (dsDNA)  
Scleroderma 70 Antibody (Scl 70 Ab)  
Smith Antibody  
SSA Antibody  
SSB Antibody  
Rheumatoid Factor Antibody

# Biophysical250™

## Autoimmune Evaluation

Anti-Nuclear Antibody  
Beta 2-Glycoprotein Antibody

Centromere Prot B Ab  
Double stranded DNA Antibody  
Histone Antibody

Jo-1 Antibody  
Rheumatoid Factor  
Ribosomal P Antibody

Scleroderma 70 Antibody  
Smith Antibody  
SSA Antibody  
SSB Antibody

## Cancer Evaluation

Alpha Fetoprotein  
Cancer Antigen 15-3  
Cancer Antigen 19-9  
Cancer Antigen 125  
Carcinoembryonic Antigen  
fPSA/tPSA ratio  
Human Chorionic Gonadotropin

HB-EGF  
Neuron Specific Enolase  
Prostatic Acid Phosphatase  
Prostate-Specific Antigen, Free  
Prostate-Specific Antigen, Total  
Amphiregulin

Betacellulin  
Epidermal Growth Factor  
Epidermal Growth Factor Receptor  
Epiregulin  
Fibroblast Growth Factor-Basic Form  
Interleukin-6

Matrix Metalloproteinase 2  
Matrix Metalloproteinase 9  
Placental Growth Factor  
Platelet-Derived Growth Factor BB  
Tenascin C  
Transforming Growth Factor Alpha  
Vascular Endothelial Growth Factor

## Cardiovascular Evaluation

Cholesterol, Total  
High Density Lipoprotein  
Low Density Lipoprotein  
LDL/HDL Ratio  
Cholesterol/HDL ratio  
Triglycerides  
Lipoprotein (a)

Fatty Acid Binding Protein  
LDL Real  
IDL Cholesterol  
HDL2  
HDL3  
Total VLDL  
VLDL1+2

VLDL3  
Non-HDL Cholesterol  
Remnant Lipoproteins  
LDL Density (Pattern)  
Apolipoprotein A1  
Apo B100  
Apo B100/Apo A1 Ratio

LDL4  
LDL3  
LDL2  
LDL1  
C Reactive Protein  
Homocysteine  
Plasminogen Activator Inhibitor-1

## Diabetes Evaluation

Adiponectin  
C-Peptide  
C-Reactive Protein  
Glucagon-like Peptide-1 Total  
Glucose  
Hemoglobin A1c

Insulin  
Glucose/Insulin ratio  
Insulin Antibody  
Pro-insulin/insulin ratio  
Interleukin-6  
Interleukin-8

Leptin  
Pancreatic islet cell Antibody  
Pancreatic polypeptide  
Plasminogen Activator Inhibitor  
Type I  
Proinsulin, Intact

Pro-insulin, split  
Proinsulin, Total  
Resistin  
Sex Hormone Binding Globulin  
Tumor Necrosis Factor Alpha  
Tumor Necrosis Factor Receptor 2

## Endocrine Systems Evaluation

**New Pituitary/Adrenal**  
Androstenedione  
Cortisol  
Growth Hormone  
IGFBP-3  
IGF-1  
**Thyroid**  
Free Thyroxine

Free Triiodothyronine  
Thyroglobulin Antibody  
Thyroid Microsomal Antibody  
Thyroid Stimulating Hormone  
Thyroxine Antibody  
Thyroxine Binding Globulin  
Triiodothyronine Antibody  
**Parathyroid**

Calcitonin  
Calcium  
Parathyroid Hormone  
Phosphorus  
**Sex Hormones**  
Dihydroepiandrosterone sulfate  
Estradiol  
Follicle Stimulating Hormone

Luteinizing Hormone  
Progesterone  
Prolactin  
Testosterone  
Sex Hormone-Binding Globulin  
Bioavailable Testosterone  
Free Testosterone  
Percent Free Testosterone

## Hematology Evaluation

White Blood Cell Count  
Red Blood Cell Count  
Hemoglobin  
Hematocrit  
Mean Corpuscular Volume  
Mean Corpuscular Hemoglobin

Mean Corpuscular Hemoglobin  
Concentration  
Red Cell Distribution Width  
Neutrophil Number  
Neutrophil Percentage  
Lymphocyte Number

Lymphocyte Percentage  
Monocyte Number  
Monocyte Percentage  
Eosinophil Number  
Eosinophil Percentage  
Basophil Number  
Basophil Percentage

Platelet Count  
Ferritin  
Iron, serum  
Iron binding capacity, total  
Factor VII  
Iron Binding Capacity, Unsaturated  
Iron, Percent Saturated

## Inflammation Evaluation

C Reactive Protein  
Immunoglobulin A  
Immunoglobulin E  
Immunoglobulin M

Intercellular Adhesion Molecule 1  
Interleukin 1- Beta  
Interleukin-6  
Interleukin-8

Matrix Metalloproteinase 2  
Matrix Metalloproteinase 3  
Matrix Metalloproteinase 9  
Tissue Factor

Tumor Necrosis Factor Alpha  
Tumor Necrosis Factor Receptor 2  
Vascular Endothelial Growth Factor

## Nutritional Evaluation

### Vitamins and Minerals

Folic Acid  
Magnesium  
Vitamin B12  
Vitamin D

### Essential and Metabolic Fatty Acids

Alpha Linolenic Acid (ALA)  
Eicosapentaenoic Acid (EPA)  
Docosahexaenoic Acid (DHA)  
Docosapentaenoic Acid  
Percent Omega 3s  
Linoleic Acid  
Gamma-Linolenic Acid  
Dihomo-Gamma-Linolenic Acid  
Arachidonic Acid

Docosatetraenoic Acid  
Eicosadienoic Acid  
Percent Omega 6s  
Oleic Acid  
Nervonic Acid  
Percent Omega 9s  
Pentadecanoic Acid  
Palmitic Acid  
Margaric Acid  
Stearic Acid  
Arachidic Acid  
Behenic Acid  
Tricosanoic Acid  
Lignoceric Acid  
Percent Saturated Fatty Acids  
Elaidic Acid  
Palmitoleic Acid

Vaccenic Acid  
Omega 3 EMFA Distribution  
Omega 6 EMFA Distribution  
Omega 9 EMFA Distribution  
Saturated EMFA Distribution  
Trans EMFA Distribution  
Omega 7 EMFA Distribution  
Omega 3 Index  
**Eicosanoid Precursors**  
Arachidonic Acid  
Omega 6s/Omega 3s  
Arachidonic Acid/  
Eicosapentaenoic Acid  
Arachidonic Acid/DGLA Ratio  
1/Dihomo-Gamma-Linolenic Acid  
1/Eicosapentaenoic Acid  
Inflammation Index

### Membrane Fluidity

Saturated/Polysaturated Fats  
Percent Saturated Fats  
Lignoceric Acid + Nervonic Acid  
Percent Omega 7s  
1/Docosahexaenoic Acid

### Desaturase Activity

Linoleic Acid/DGLA Ratio  
Eicosadienoic Acid /DGLA Ratio  
DGLA Ration/AA x 100  
Steric Acid/Oleic Acid

### Oxidative Stress

Elaidic Acid  
Elaidic Acid/Oleic Acid

### Insulin Dynamics

Percent Saturated Fats  
Linoleic Acid/(AA+DGLA)  
1/Docosahexaenoic Acid

## Organ Systems Evaluation

### Gastrointestinal

Gastrin  
Helicobacter pylori IgG  
Antibody  
Ttissue Transglutaminase  
Antibody  
Vitamin B12

### Kidney

Blood Urea Nitrogen  
Blood Urea Nitrogen/Creatinine  
Ratio  
Chloride  
Carbon Dioxide, Bicarbonate  
Creatinine  
Potassium  
Sodium  
Estimated Glomerular Filtration

### Rate

**Liver**  
ALP (Alkaline Phosphatase)  
ALT (Alanine Aminotransferase)  
AST (also called SGOT)  
Bilirubin, total  
GGT (Gamma Glutamyl  
Transferase)  
Hepatitis A IgM Antibody  
Hepatitis B Core IgM Antibody

Hepatitis B Surface Antigen  
Hepatitis B Surface Antibody  
Hepatitis C Antibody  
Albumin  
Albumin/Globulin Ratio  
Globulin  
Total Protein  
**Pancreas**  
Amylase

## Musculoskeletal Evaluation

### Gout

Uric Acid

### Tissue Damage

Creatine Kinase, Total  
Creatine Kinase-MB

Lactate Dehydrogenase

### Bone

Vitamin D

Calcium

### Pancreas

Amylase

## Fatigue Evaluation

Ferritin  
Hemoglobin  
Thyroid Stimulating Hormone

Free T3  
Free T4  
Testosterone

Cortisol  
Epstein-Barr Virus EA IgM  
Antibody

Epstein-Barr Virus VCA IgM  
Antibody