



# LIST OF BIOLOGICAL MARKERS

# CONTENTS

- p. 2    **Oxidative stress profile**
  - Nutritional assessment**
  - Cardiovascular assessment**
  - Neurotransmitter assessment**
- p. 3    **Psychological evaluation of stress**
  - Hematology and immunology**
  - Vitamin panel**
  - Inflammatory workup and electrophoresis**
  - Tumor markers**
- p. 4    **Viral and Bacterial Workup**
  - Endocrinology Assessment**
  - Liver Analysis**
  - Renal and urological assessment**
- p. 5    **Hydromineral balance assessment**
  - DNA methylation**
  - Exhaled gas analysis**
  - Pollutant exposure evaluation**

# OXIDATIVE STRESS PROFILE

## Biology

- Total antioxidant capacity
- Measured antioxidant capacity
- Glutathione Peroxidase (GPX)
- Superoxide Dismutase (SOD)
- Coenzyme Q10
- Zinc
- Selenium
- Copper
- Copper : Zinc ratio
- Homocystein
- Anti-LDL oxidized IgG antibodies
- 8OH-D Guanosine
- 8OH-D Guanosine : Creatinine ratio

# CARDIOVASCULAR ASSESSMENT

## Biology

- Troponin
- Brain Natriuretic Peptide (BNP)

# NUTRITIONAL ASSESSMENT

## Biology

- Fasting blood glucose
- Insulin
- Hemoglobin A1c (HbA1c)
- Insulin resistance (HOMA)
- Estimation of average blood glucose
- Glycosuria
- Triglycerides
- Total cholesterol
- HDL cholesterol
- LDL cholesterol
- Non-HDL cholesterol
- Atherogenic index
- Apolipoprotein A1
- Apolipoprotein B
- Apolipoprotein A1:B ratio
- Lipoprotein A
- Myristic acid
- Palmitic acid
- Stearic acid
- Palmitoleic acid
- Cis-vaccenic acid
- Oleic acid
- Eicosatrienoic acid
- Trans-vaccenic acid
- Trans-palmitoleic acid
- Rumenic acid
- Elaidic acid
- Conjugated linoleic acid 2 C18:2 (trans-10, cis-12)
- Conjugated linoleic acid 3 C18:2 (cis-9, trans-12)
- Linoleic acid
- Gammalinolenic acid
- Dihomo-γ-linolenic acid
- Arachidonic acid
- Total Omega-6
- Alpha-linolenic acid
- Eicosapentaenoic acid
- Docosahexaenoic acid
- Omega-3 Total
- Omega-3 Index
- Omega-6 : Omega-3 ratio
- Arachidonic acid : Eicosapentaenoic acid ratio
- Linolenic acid : Dihomogamma-linolenic acid ratio

## Anamnesis

- Nutritional assessment with your physician

# NEUROTRANSMITTER ASSESSMENT

## Biology

- Dopamine
- 3,4-Dihydroxyphenylacetic acid (3,4 DOPAC)
- Homovanillic acid
- Methoxy-4-hydroxyphenylglycol (MHPG)
- Vanillylmandelic acid (VMA)
- Serotonin
- 5-Hydroxyindoleacetic acid (5-HIAA)
- Homovanillic acid : 5-hydroxyindoleacetic acid (HVA:5-HIAA) ratio
- Adrenaline
- Noradrenaline

# PSYCHOLOGICAL EVALUATION OF STRESS

## Biology

- Awakening cortisol
- Awakening cortisol + 30 min
- Awakening cortisol + 30 min : Cortisol Awakening Response (CAR) ratio
- 8pm cortisol
- 8pm DHEAs
- 8pm cortisol : 8pm DHEA ratio
- Awakening cortisol : 8pm cortisol ratio

# HEMATOLOGY & IMMUNOLOGY

## Biology

- Hemoglobin
- Hematocrit
- Erythrocytes
- Mean Corpuscular Volume (MCV)
- Mean Corpuscular Hemoglobin Concentration (MCHC)
- Leukocytes
- Neutrophils
- Lymphocytes
- Monocytes
- Eosinophils
- Basophils
- Platelets
- Mean Platelet Volume (MPV)
- Iron
- Total Iron Binding Capacity (TIBC)
- Saturation percentage
- Ferritin
- Transferrin
- Iron : Transferrin ratio
- Zinc

# VITAMIN PANEL

## Biology

- Vitamin A
- Vitamin B12
- Vitamin B9 (Folates)
- Vitamin D
- Vitamin E

# INFLAMMATORY WORKUP & PROTEIN ELECTROPHORESIS

## Biology

- Total proteins
- Albumin
- Alpha-1 globulins
- Alpha-2 globulins
- Beta globulins
- Gamma globulin
- Ultra-sensitive C-reactive Protein (CRP)
- Soluble urokinase plasminogen activator receptor (suPAR)
- Hyaluronic acid

# TUMOR MARKERS

## Biology

- Carcinoembryonic Antigen (CEA)

# VIRAL AND BACTERIAL WORKUP

## Biology

- Epstein-Barr Virus (EBV)
- Cytomegalovirus (CMV)
- Herpes Simplex Virus (HSV)
- Hepatitis C Virus (HCV)
- Human Immunodeficiency Virus (HIV)
- Hepatitis B Virus (HBV)
- Chlamydia
- Human Papillomavirus (HPV)

# ENDOCRINOLOGY ASSESSMENT

## Biology

- TSH
- Free T4
- Free T3
- Urinary T3
- Iodine
- Pregnenolone
- DHEA sulfate
- Free testosterone
- Bioavailable testosterone
- % Free Testosterone
- SHBG
- FSH
- Insulin

# LIVER ANALYSIS

## Biology

- SGOT
- SGPT
- Alkaline phosphatases
- Gamma-GT
- Total bilirubin
- Direct bilirubin
- Indirect bilirubin

# RENAL AND UROLOGICAL ASSESSMENTS

## Biology

- Creatinine (blood)
- Creatinine (urine)
- Glomerular Filtration Rate (GFR)
- Cystatin C
- Uric acid
- PSA
- Free PSA
- Free PSA : Total PSA ratio
- Proteinuria
- Hematuria
- Leukocyturia
- Urine pH

# HYDROMINERAL BALANCE ASSESSMENT

**Biology**

- Sodium
- Chlorures

# DNA METHYLATION

**Biology**

- DNA Methylation
- MethylAge
- DNA Hydroxymethylation

# EXHALED GAS ANALYSIS

**Biology**

- Dihydrogen (H<sub>2</sub>)
- Hydrogen Sulfide (H<sub>2</sub>S)
- Volatile Organic Compounds (VOCs)
- Nitric Oxide (NO)

# POLLUTANT EXPOSURE EVALUATION

**Biology**

- Arsenic
- Nickel
- Mercury