

bioAro

P R E C I S I O N H E A L T H

ABOUT US

BioAro is a leading biotechnology company specializing in Precision Health, HealthSpan, and Longevity. It offers BioPhenome Lab services, including genomics, epigenetics, proteomics, microbiomics, metabolomics, cancer screening, pharmacogenomics, and more.

Powered by advanced AI, our real-time PanOmic analysis ensures accurate and swift results. With the integration of BioEMR, our AI-powered Electronic Health Record System for digital health services, and a commitment to data security through blockchain, BioAro stands at the forefront of Precision Health.



GENOMICS

BioAro employs **cutting-edge analytical technology** and **Machine learning** to fast-track genomics research. Our tailored solutions streamline processes, providing **high-quality data** affordably and swiftly. With advanced tools like **Shotgun metagenomics**, expect **superior results in record time**.

WHOLE GENOME SEQUENCING

WGS

WGS reveals genetic variations and mutations with unparalleled precision, providing holistic insights into potential health risks of **protein-coding and non-coding genes**. Reporting includes information about **pharmacogenomic markers** and detailed information about the slightest variability in the genomic information.

The report processing time is **4 weeks**.

PRIORITY EXPRESS

For **express WGS reports** we have a **special priority package** that will provide comprehensive reports in just **2 weeks**.

WHOLE EXOME SEQUENCING

WES

WES identifies key **single nucleotide polymorphisms (SNPs)** and **rare pharmacogenomic markers** in **protein-coding genes**, adapting to evolving research. Its gene flexibility is crucial for emerging associations, pinpointing disease-causing mutations in exomes for diagnosis of genetic disorders and hereditary diseases.

The report processing time is **4 weeks**.

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For **express WES reports** we have a **special priority package** that will provide comprehensive reports in just **2 weeks**.

DISEASE-BASED DNA TEST

Disease-based DNA tests **utilize Whole Exome Sequencing** to examine individual genetic profiles, identifying **individual genetic variations** of a **patient** for personalized health insights and proactive management. Our Disease-Based DNA Tests enable **comprehensive sequencing** of all relevant genes, ranging from two to over 1,000, grouped together for specific disease, syndrome, or symptom analysis.

CARDIOLOGY PANELS

- Amyloidosis
- Hypertrophic Cardiomyopathy
- Hyperlipidemia
- Hypertension
- Familial Hypercholesterolemia
- Heart Failure
- Sudden Cardiac death
- Ischemic Heart Disease
- Arrhythmogenic Cardiomyopathy
- Cardiomyopathy and many more.

PULMONOLOGY PANELS

- Asthma
- Bronchitis
- Chronic Cough
- Chronic Granulomatous Disease
- Chronic Obstructive Pulmonary Disease
- Cystic Fibrosis
- Idiopathic Pulmonary Fibrosis
- Pulmonary Embolism
- Non-CF bronchiectasis
- Pleuritis
- Sleep Apnea
- Respiratory Ciliopathies including non-CF
- Sarcoidosis
- Primary Ciliary Dyskinesia

ENDOCRINOLOGY & METABOLISM PANELS

- Cushing Syndrome
- Diabetes
- Thyroid
- Celiac Disease
- Hyperhomocysteinemia
- Metabolic Syndrome
- Obesity
- Glycogen Storage Disease II

HEMATOLOGY PANELS

- Anemia
- Fanconi Anemia
- Polycythemia
- Cytopenias and Congenital Anemias
- Myelodysplasia
- Hereditary Erythrocytosis

MENTAL HEALTH PANELS

- ADHD
- Autism
- Depression
- Comprehensive Mental Health
- Anxiety and Panic Attacks
- Personality Disorder/ Bipolar Disorder
- Schizophrenia

MUSCULOSKELETAL PANELS

- Muscular Dystrophy
- Skeletal Ciliopathies
- Skeletal Muscle Channelopathy

ONCOLOGY PANELS

- Breast Cancer
- Bladder Cancer
- Bone Cancer
- Lung Cancer
- Colorectal Cancer
- Cholangiocarcinoma [Bile Duct Cancer]
- Prostate Cancer
- Ovarian cancer
- Pancreatic cancer
- Endometrial Cancer
- Gastric (Stomach) Cancer
- Haematological Cancers
- Leukemia
- Nephroblastoma
- Neuroblastoma
- Squamous Cell Carcinoma of the Skin

RHEUMATOLOGY PANELS

- Antinuclear Antibodies
- Arthritis
- Avascular Necrosis (Osteonecrosis)
- Bursitis
- Familial Mediterranean Fever
- Granulomatosis
- Osteoarthritis
- Osteoporosis
- Periodic Fever, Aphthous Stomatitis, Pharyngitis
- Purpura
- Raynaud's Phenomenon
- Scleroderma
- Spinal Canal Stenosis
- Takayasu's Arteritis
- Temporal Arteritis
- Vasculitis
- Gout

AND MANY MORE PANELS.

PHARMACOGENOMICS TEST

BioAro's Pharmacogenomics helps in finding the right medication or treatment by using **Next Generation Sequencing**, offering a comprehensive understanding of **drug-gene interaction** by using **Whole Exome Sequencing (WES)** across **all protein-coding genes**. Our team performs risk analysis of medications commonly prescribed for a condition you may have, providing insights into their adverse effects, efficacy, and dosage.

With the power of **WES**, the **results are inclusive of unique and rare variants**.

Patients have the opportunity to **add new medications for reassessment** which were prescribed after the test was performed.

► Commonly Tested Genes Include

- CYP2D6
- CYP2C9
- CYP2C19
- TPMT
- VKORC1
- CYP3A4
- CYP2B6
- SLCO1B1
- UGT1A1
- DPYD
- HFE
- ACE
- UGT1A1
- CYP2A6
- AGT
- AGTR1
- NAT2
- COMT
- TYMS
- ABCB1(MDR1)
- CYP3A5
- ERCC1
- HLA-B
- BRCA1/2
- HFE
- P2Y12
- and more

*BioAro offers customization as per your profile.



EPIGENOMICS

Involves examining factors that influence the aging process, thereby adopting strategies to promote overall health and well-being.

DNA METHYLATION TEST

Analyzing **DNA methylation patterns** from a saliva or blood sample, we estimate **biological age** and offer insights into HealthSpan to optimize longevity and enhance overall well-being of patients.

TELOMERE LENGTH TESTING

Telomere Length Test could assist physicians in **evaluating cellular aging** and **disease susceptibility**. This non-invasive test provides precise insights into patients' biological age and health status, aiding in tailored preventive care interventions.

MICROBIOME TESTING

BioAro's microbiome tests offer **advanced analysis** based on **Shotgun Metagenomics** and provide comprehensive insights into patients' health.

GUT MICROBIOME

Our advanced and comprehensive test offers a thorough examination of bacteria, archaea, fungi, parasites, and viruses in your body. It provides insights into **antibiotic-resistance genes**, identifies harmful microbes, and suggests lifestyle recommendations.

ORAL MICROBIOME

Oral microbiome can help check for certain risk factors that contribute to oral diseases like **periodontitis, gingivitis, and dental cavities**. It can also provide insights into other health issues like heart disease, stroke, diabetes and oral cancer risks.

VAGINAL MICROBIOME

This test can offer insights into vaginal discomfort including **yeast infections**, bacterial vaginosis, **infertility**, pregnancy complications (miscarriages), and STIs.



SKIN MICROBIOME

Test provides detailed skin analysis, identifying microbial types and potential skin threats like **eczema**, **psoriasis**, and **acne** inflammation. By detailing the precise composition of the entire microbiome, we eliminate the hit-and-trial approach for treating warts, rashes, and other microflora-mediated skin infections, ensuring targeted and effective treatment strategies.

CANCER

LIQUID BIOPSY ANALYSIS

BioAro offers two kinds of services in Liquid Biopsy to identify the Somatic variants associated with cancer and compare them with the patient's normal genome.

CELL FREE DNA-SOMATIC TUMOR MARKERS

BioAro specializes in using advanced Next-Generation Sequencing (NGS) for Cell-free DNA (cfDNA) analysis in cancer for the **detection and monitoring of genetic changes in cancer**. Cell-free DNA analysis reports provide insights for diagnosis, prognosis, treatment selection, and monitoring of treatment response.

COMPREHENSIVE CELL FREE DNA ANALYSIS

BioAro offers the analysis of **somatic variations** in cfDNA analysis to inform cancer diagnosis, prognosis, and treatment decisions and comparison with **germline analysis** to provide information about an individual's genetic predisposition to certain conditions, allowing for appropriate clinical management and genetic counseling.

TISSUE BIOPSY ANALYSIS

BioAro offers the analysis of tissue biopsy using Next-Generation Sequencing (NGS) by integration of somatic and germline variant data to provide comprehensive understanding of the genetic landscape, aiding in personalized medicine and targeted therapy decisions. Our reports are **customized to guide physicians in making treatment decisions**, assess prognosis, and, if necessary, consider genetic counseling for hereditary conditions.

PROTEOMICS

Examines cell proteins to understand functions and detect diseases early, guiding personalized approaches to wellness and disease prevention.

CARDIAC CARE PANEL

Obtain targeted insights crucial for managing cardiac well-being, aiding in the assessment of life threatening conditions such as heart attacks, heart failure, pulmonary embolism and DVT.

➤ Tests:

- Pro Brain Natriuretic Peptide
- Troponin T
- D-dimer

COGNITIVE HEALTH PANEL

Focuses on neurological health, cognitive decline, mental behaviour and Alzheimer's disease.

➤ Tests:

- Plasma pTau-181
- Pleiotrophin
- Neurexin 3
- TNF Receptor

KIDNEY HEALTH PANEL

Monitor filtration efficiency and hypertension management.

➤ Tests:

- Creatinine
- Urea
- Renin

METABOLOMICS

Examines a unique set of small molecules, called metabolites, offering insights into health, metabolism, and potential risks, guiding personalized approaches to wellness and disease prevention.

THYROID PANEL

Diagnose conditions like hypo or hyperthyroidism.

➤ Tests:

- TSH
- T3
- T4
- TPO

METABOLIC SYNDROME

Identify factors contributing to the risk of diabetes, heart diseases, stroke, and other serious conditions.

➤ Tests:

- Cholesterol
- HDL
- VLDL
- Creatinine
- Fasting Glucose
- Triglycerides
- Homocysteine
- Adiponectin
- HbA1c
- ApoB
- Omega 3/6
- Albumin
- BUN
- HsCRP
- Insulin

CARBOHYDRATE PROFILE

Assess the real-time cardiovascular risk, metabolic function, electrolyte status, minerals important for bone health, liver, and kidney function.

➤ Tests:

- Fasting Glucose
- Fructose Tolerance

FOOD SENSITIVITY PANEL

Detect hypersensitivities and pinpoint specific trigger foods for symptom relief and linked disorders such as digestive or allergic enabling a targeted approach.

➤ Tests:

- Dairy
- Egg
- Grains
- Gluten
- Fruits
- Vegetables
- Herbs
- Spices
- Sea food
- Meat
- Nuts
- Coffee

INFLAMMATORY PANEL

Diagnose and differentiate inflammatory conditions like PMR, CFS, and Fibromyalgia, along with certain rheumatological conditions like RA and osteoarthritis.

➤ Tests:

- Fibrinogen
- Homocysteine
- Cytokines
- D-dimer
- Interleukin 6
- Tumor Necrosis factor
- Prostaglandins
- CRP
- hsCRP
- ESR

BRAIN HEALTH PANEL

Gain insights into brain health, potential cognitive decline to ensure comprehensive care for neurological well-being.

➤ Tests:

- Vitamin B12
- Calcium
- Beta-Amyloid
- Myelin Basic Protein
- Glial Fibrillary Protein (GFAP)

ANTIOXIDANT PANEL

Obtain the overall health status of the body by testing several antioxidants that determine how well is the body to fight against infections.

➤ Tests:

- Glutathione
- Cysteine
- Coenzyme Q10
- Vitamin C
- Vitamin E
- Selenium
- Alpha lipoic Acid

AMINO ACID PANEL

Unveil deficiencies, fostering optimized nutrition and metabolism and other vital functions. Explore the amino acid profile and check the physiological functions influenced by the optimal concentrations

➤ Tests:

- Serine
- Glutamine
- Asparagine
- Choline
- Inositol
- Homocysteine
- Oleic acid
- Lysine
- Carnitine

KETONE PANEL

Manage conditions such as diabetes, alcoholism and follow ketogenic diets.

➤ Tests:

- Beta hydroxy butyrate
- Acetoacetate
- Acetone

VITAMIN PANEL

Diagnose complete Vitamin levels in your body, essential for skin, bone, hair, organ health, and deficiency.

➤ Tests:

- Vitamin A
- Vitamin B
- Vitamin C
- Vitamin D
- Vitamin E
- Vitamin H
- Vitamin K

*Vitamin B includes B1,B2,B3,B5,B6,B7,B9 & B12.

WEIGHT LOSS PANEL (MEN AND WOMEN)

Measure biomarkers related to the metabolic and hormonal factors that impact metabolism and weight.

➤ Tests:

- Glucose Fasting
- HbA1c
- TSH, Free T3/T4
- ALK Phosphatase
- Lipids Panel
- ApoB
- Creatinine
- ALT

MICROPLASTICS PANEL

Blood-based panel to detect diverse microplastics in human lungs, placental tissues, breast milk, and blood samples.

➤ Tests:

- PVC
- Nylon
- Polyethylene

LIPOPROTEIN PANEL

This analysis detects metabolic abnormalities linked to atherosclerosis, diabetes, and obesity, aiding timely interventions for preventive measures.

➤ Tests:

- HDL
- LDL
- LDL Particles
- Intermediate density lipoproteins
- Triglycerides
- ApoA
- ApoB

LONGEVITY AND HEALTHSPAN PANEL

Integrates hallmark assays to predict aging risk factors, enabling personalized early management for enhanced health span and longevity. By detecting risk factors for CVD, cognitive conditions, cancer, diabetes, and more, it ensures a healthy lifespan.

➤ Tests:

- Lytes
- Extended Lytes
- Zinc
- Mg. Phos
- Ionized Calcium
- GH
- IGF-1
- ACTH
- Cortisol
- DHEA-S
- hs-CRP
- VITAMIN D25
- GFR
- CR
- ANA
- Anti-Mullerian Hormone
- Aldosterone
- Renin
- Homocysteine
- Uric Acid
- Folate
- Organic Acid
- Plasma amino Acid
- Lyme testing
- HBA1C
- Serine
- Glutamine
- AST
- Iron
- Bilirubin
- Lipase
- CPK
- Carnitine
- Oleic Acid
- Lysine
- Lipoproteins
- ApoB
- Asparagine
- Choline
- Homocysteine
- Inositol

NOVEL LONGEVITY BIOMARKERS PANEL

Novel determinant factors to address specific impacts on lifespan, employing a multi-modal approach to target various aging aspects simultaneously, offering precise cellular-level support for extended longevity.

► Tests:

- Plasma Ptau protein – *Alzheimer's biomarker*
- AB amyloid - *Alzheimers biomarker*
- Inducible signaling pathway protein
- Frizzled related protein
- Growth arrest specific 6
- Collagen type III Alpha
- Growth differentiation factor 15
- Matrix metalloproteinase-2
- Insulin like growth factor binding protein 7
- Neurexin 3
- Pleitrophin
- TNF receptor
- Netrin
- Chordin like 1
- Osteoglycin
- Transglein
- Cathepsins V

Immune Cell deconvolution an estimation of immune cells, based on epigenetic signature:

- Total Lymphocytes %
 - B cell %
 - CD4+ T cell %
 - CD8+ T cell %
 - NK Cell %
- CD4+: CD8+ T cell Ratio
- Neutrophils percentage
- Monocytes percentage
- Platelet count
- Eosinophils percentage
- Gamma-glutamyl transferase (GGT)
- Thyroglobulin antibodies
- Thyroperoxidase antibodies
- Myeloperoxidase
- Copeptin
- Androgen index
- α-synuclein
- D-dimer
- Vitamin B12
- Vitamin D

WOMEN HEALTH PROFILE

Comprehensive assessments for pituitary function, growth hormone, ovarian reserve, kidney health, lipid profile, and bone health.

➤ Tests:

- Estradiol
- Progesterone
- Total and Free Testosterone
- DHEA-S
- Cortisol
- Sex hormone binding globulin
- ALA
- ALT
- ALP
- Cholesterol
- LH/FSH
- TSH, Free T3/T4
- CBC
- Ferritin
- ALK Phosphatase
- ApoB
- Bilirubin
- AMH
- BUN
- hsCRP
- DHEA
- HDL
- LDL
- Vit D
- Albumin
- Prolactin
- B12
- Creatinine
- IGF

HORMONAL HEALTH

Monitor pituitary function by gaining insight into the hormonal balance, reproductive health and preventive care for healthy lifestyle modifications.

➤ Tests:

- Cortisol
- Total and Free Testosterone
- Estradiol
- Progesterone
- Prolactin
- DHEA-S
- TSH, Free T3/T4

FERTILITY PANEL

Transform the dreams of parenthood into reality, to embark on the enriching journey of recognizing fertility, and impotency related to age and health.

➤ Tests:

- Cortisol
- Estradiol
- Progesterone
- Sex hormone binding globulin
- LH
- FSH
- DHEA-S
- Testosterone
- Prolactin
- TSH
- T3
- T4
- TPOab

HORMONAL AND METABOLIC PANEL

Diagnose hormones necessary for growth, metabolism and endocrine functions. It is customized to estimate the risks associated with stroke, heart failure, metabolism and inflammation.

➤ Tests:

- Estradiol
- Progesterone
- Testosterone
- Sex hormone binding globulin
- Luteinizing Hormone (LH)
- Follicle Stimulating Hormone (FSH)
- Fibrinogen
- TSH
- T3
- T4
- Thyroglobulin
- Tpo ab
- Cholesterol
- HDL
- LDL
- ApoB
- HsCRP
- Cortisol
- Prolactin
- VLDL
- Insulin
- HBA1C
- DHEA-S

MEN HEALTH PROFILE

Complete insight of organ health in aging along with diagnosis of impotency, prostate cancer, diabetes, and risk of coronary artery disease.

➤ Tests:

- Cortisol
- Total Testosterone
- Free Testosterone
- Co enzyme Q10
- ALA
- AST
- Arachidonic acid
- ALK Phosphatase
- Methylmalonic Acid
- Cholesterol
- Vitamin D
- BUN
- Progesterone
- Creatinine
- HDL
- LDL
- TSH, Free T3/T4
- Bilirubin
- Estradiol
- B12
- IGF
- hsCRP
- Glucose
- PSA
- Albumin
- Ferritin
- ApoB
- DHEAS

TRT MEN'S PANEL

➤ Tests:

- Lutenizing Hormone (LH)
- Follicle Stimulating Hormone (FSH)
- Sex Hormone Binding Globulin (SHBG)
- Total Testosterone
- Free Testosterone
- Prolactin
- Estradiol
- ALT
- PSA

SEXUALLY TRANSMITTED INFECTION PANEL

Checks for infections like HPV, HIV, Hepatitis C, Herpes, Syphilis, and others, safeguarding yourself and your partner from potential long-term complications.

➤ Tests:

- Hepatitis C
- Gonorrhea
- Trichomoniasis
- Herpes simplex
- Syphilis
- Chlamydia
- HPV
- HIV 1/2

LYME DISEASE TEST

Early diagnosis and proper antibiotic regimen is crucial to prevent complications and enhance recovery in Lyme disease.

SLEEP AND STRESS PANEL

Assess sleep pattern and stress levels, evaluate the state of health of vital bodily systems to check for early signs of health conditions.

➤ Tests:

- Cortisol
- Melatonin
- Vitamin D
- DHEA

COAGULATION PANEL

➤ Tests:

- Fibrinogen
- INR
- PTT

TOXICOLOGY PANEL

Monitor the adverse effects of hazardous drugs such as opioids and stimulants like nicotine, caffeine, cocaine, and marijuana.

➤ Tests:

- Acetylmorphine
- Cocaine
- Marijuana
- Ketamine
- Codeine
- Nicotine
- Phenobarbital
- Cyclobenzaprine
- Haloperidol
- Lidocaine
- Heroin
- Opium
- Hashish
- Belladonna
- Datura
- Valium
- Barbiturate
- Psilocybin
- Amanitas
- Lysergic Acid
Aiethylamide

NOVEL PROTEIN BIOMARKERS

Serve as valuable indicators for health conditions, aiding in diagnosis, prediction, and treatment monitoring.

BRAIN

Advanced panel that assesses risk of brain health issues such as Alzheimer's disease, dementia and other neurodegenerative conditions.

➤ Biomarkers:

- Inducible signaling
Pathway Protein 2
- Growth Arrest Specific 7
- Frizzled Related Protein
- AB Amyloid
- Netrin 4

KIDNEY

Our team assess Uromodulin and α -klotho levels, providing insights into renal function and **age-related health risks**.

➤ Biomarkers:

- Klotho
- Uromodulin

OSTEOPOROSIS PANEL

Assess **osteoporosis** risk and screening for other bone-related conditions.

➤ Biomarkers:

- Matrix GLA Protein
- Sclerostin

BONE GROWTH PANEL

A comprehensive assessment to evaluate bone health, tissue remodeling, hormonal regulation, and metabolic balance for holistic health insights

➤ Biomarkers:

- Chordin Like 1
- Osteoglycin
- Transgelin
- Collagen Type III Alpha 1
- Growth Differentiation Factor 15
- Matrix Metalloproteinase-2
- Cathepsins V
- Sex Hormone Binding Globulin
- Growth Arrest Specific 6



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own health



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