What is a **Biomarker?**

A measurable indicator of a biological process or condition in your body.

What is a **Health Domain?**

Health domains are various biological systems contributing to your overall health and wellness. The Voloridge Health model analyzes biomarker values for the following health domains: Cardiovascular(CV), Metabolic, Respiratory, Liver, Kidney, Brain, and Longevity.

What is **Biomarker Strength?**

Indicates how strongly a biomarker is correlated to a particular health domain, based on Voloridge Health models. These values range from 1 (weakest) to 10 (strongest) based on how strong the correlation between the biomarker and the health domain score is identified. This allows users to see what biomarkers contribute most to the scores within each health domain.

What is a **Volo™Score?**

Volo™Score is a measure of your current state of health in each of the Health Domains. Volo™Score calculations are based on how your biomarkers compare to the biomarkers of individuals of the same age and sex in the UK Biobank who don't smoke and haven't had any major cardiac events or cancer. The healthier your biomarkers, the healthier your Volo™Score.

What is the **Voloridge Modeled Range (VMR)?**

VMR represents a sex-specific biomarker range associated with the highest level of health and wellness in the health domains listed. It is derived from Voloridge Health models using the six major health domains and a 15-year timeframe. Laboratory reference ranges often focus on single biomarker-disease relationships. The VMR is derived from unbiased, data-driven analyses across multiple biomarkers and health domains.

Note: The VMR is a research-based insight tool still under development, not a medical recommendation, and may differ from laboratory reference values seen on standard reports.

Upgrade Your Next Blood Test

5 Must-Add Biomarkers

A comprehensive guide to key biomarkers you should consider adding to your upcoming blood test.

voloridge™ HEALTH

Essential Biomarkers to Include

Cystatin C | Kidney health

Cystatin C is a protein produced at a constant rate by most cells and filtered from the blood by the kidneys. Elevated levels of Cystatin C may indicate impaired kidney function more accurately than creatinine levels. Estimated glomerular filtration rate (eGFR) is a calculation indicating the filtering ability of the kidney and therefore kidney health. In 2021, the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) updated eGFR equations using Cystatin C more than creatinine which reflects the growing role in kidney health assessment.

Biomarker Strength: CV 10, Kidney 10, and Longevity 10

HbA1c | Metabolic health

HbA1c is a non-fasting blood test that measures average blood sugar (glucose) level over the past 90 days by assessing the amount of glucose accumulated and permanently attached to red blood cells. Fasting glucose blood tests are subject to fluctuations and often miss metabolic abnormalities versus the more reliable HbA1c test. The American Diabetes Association guidelines recommend HbA1c as the preferred biomarker for the diagnosis and monitoring of diabetes progression or improvement. Elevated HbA1c levels also are useful in the early detection of insulin resistance, prediabetes, and metabolic syndrome, giving a valuable window of opportunity to improve metabolic and brain health.

Biomarker Strength: Metabolic 10, Brain 9, and Kidney 7

ApoB | Heart health

Apolipoprotein B is the main protein contained in particles like LDL, which carry cholesterol to cells. ApoB reflects the total concentration of plaque-forming cholesterol particles in the blood, blocking arteries. The National Lipid Association recognizes ApoB as superior to LDL-C for cardiovascular risk assessment, especially when ApoB is high and LDL is normal. A heart-healthy lifestyle can lower your apoB and improve your cardiovascular health.

Biomarker Strength: CV 7

*See back page for additional definitions and terminology.

GGT | Liver health

Gamma-Glutamyl Transferase (GGT) is an enzyme in the cell membrane that protects cells from injury. Although it is found in many organs, it plays a key role in detoxification and is an important test for liver health. Elevated levels of GGT occur when the liver is stressed or damaged due to fatty liver, alcohol, drugs, medications, bile duct obstruction, infection (hepatitis), or cancer. Without intervention, liver disease can progress into fibrosis (reversible scar tissue), cirrhosis (irreversible damage), and liver failure (death). High levels of GGT are also linked to increased mortality, cardiovascular disease, acute pulmonary embolism, cancer, and gallstones, according to the American Heart Association and the National Institute of Health. The Voloridge Health models highlight the correlated value of GGT in liver health.

Biomarker Strength: Liver 10, Longevity 7

hs-CRP | Overall health

High Sensitivity C-Reactive Protein is a protein produced by the liver in response to inflammation in the body. A healthy CRP is <1 mg/L. CRP levels can rise to >10 mg/L when the body responds to infection, injury, and autoimmune flareups. hs-CRP can detect chronic low-grade levels of inflammation, such as 1.0 to 3.0 mg/L, which contributes to long-term challenges to cardiovascular, metabolic, and many other domain health scores. Elevated levels of hs-CRP can also occur with infection, smoking, and diabetes. In the Voloridge Health model, hs-CRP emerged as a top indicator for cardiovascular and brain health, which aligns with the American Heart Association risk levels.

Biomarker Strength: CV 8, Brain 8, Longevity 7