

The Five Domains Map

What a signal asks of your body, and how to see whether it can answer

A peptide is a signal. It asks a system to build, repair, recover, or produce more energy. It does not carry the raw materials that request requires; it asks your body to spend them. These are the five systems every signal in the optimization conversation presses on, what each needs on hand, and the markers that show whether it is there.

Domain	Why a signal touches it	What it needs on hand	What a read shows
Cellular Energy and Metabolism	Performance, repair and longevity signals ask the energy machinery to run harder and build more capacity.	B vitamin cofactors, magnesium, carnitine, CoQ10, and the amino acid pool.	Citric acid cycle intermediates (citric, isocitric, alpha-ketoglutaric, succinic), lactic and pyruvic acid, and fat oxidation markers such as suberic and adipic acid.
Oxidative Stress	More metabolic flux produces more reactive oxygen species. That is chemistry, not a flaw.	Trace mineral cofactors for the antioxidant enzymes (selenium, zinc, copper, manganese) and a glutathione budget.	Lipid peroxides, pyroglutamic acid (5-oxoproline), and cystathionine on the transsulfuration route into glutathione.
Methylation and Genetic Blueprint	More synthesis and turnover raise demand for methyl groups; some popular agents add a methyl-consuming step of their own.	Folate, B12, B6, and methyl donors.	Ten curated variants, including MTHFR, COMT and CBS, read once, each paired with a functional marker for the same pathway, such as methylmalonic acid.
Fatty Acids and Inflammation	Every receptor sits in a membrane. Membrane composition shapes signaling and inflammatory tone.	The fats you have eaten over the last three to four months.	Red blood cell membrane fatty acids: Omega-3 Index, AA to EPA ratio, desaturase activity, and trans fat burden, reflecting roughly 90 to 120 days of history.
Minerals and Toxic Elements	Many enzymes need a specific metal to run, and some toxic elements compete for the same binding sites.	Magnesium, zinc, selenium, manganese, molybdenum, chromium, and iron.	Nutrient and toxic elements measured directly, side by side, including lead, mercury, arsenic, cadmium and aluminum.

Also on the panel: the essential and conditionally essential amino acids, urea cycle markers, and 3-methylhistidine, a direct marker of skeletal muscle protein breakdown.

A signal can ask for more. It cannot create the raw material that more requires.