

Optimal Human Blood Biomarker Levels (with Notes)

Immune Cells & Function

Biomarker	Optimal Range	Notes
WBC	4.5 - 6.0 x10/L	Lower-normal is ideal unless immune suppression is suspected
Neutrophils	40-60%	
Lymphocytes	25-40%	Adaptive immunity
Monocytes	2-8%	Inflammation and tissue repair
Eosinophils	1-4%	Allergies, parasites
Basophils	<1%	Allergic responses

Inflammation

Biomarker	Optimal Range	Notes
hs-CRP	<0.5 mg/L	Ideally <0.3 for low cardiovascular risk
ESR	<10 mm/hr	Elevated in chronic inflammation
Fibrinogen	200-300 mg/dL	Cardiovascular inflammation marker
IL-6	<1.5 pg/mL	Lower is better
TNF-	<2.8 pg/mL	Elevated in chronic disease

RBC Measures

Biomarker	Optimal Range	Notes
RBC Count	Men: 4.7-5.1; Women: 4.3-4.7 x 10 ¹² /L	Oxygen carrying capacity
Hemoglobin	Men: 14.0-15.5; Women: 13.0-14.5 g/dL	Iron status & oxygen transport
Hematocrit	Men: 42-47%; Women: 38-44%	Proportion of RBCs in blood
MCV	85-92 fL	RBC size; high = B12/folate issues
Ferritin	Men: 50-100; Women: 40-80 ng/mL	<30 = deficiency; >150 may indicate inflammation
Transferrin Saturation	25-35%	Iron transport and sufficiency