

Red Blood Cell (RBC) Disorder Evaluation Profiles at Mayo Clinic

Profiles	Test Description	Useful For
Protein/Functional Testing Panels		
EEVP	Red Blood Cell Enzyme Evaluation	Comparative RBC Enzymatic activities/function
HAEVP	Hemolytic Anemia Evaluation	Protein/functional testing for Coombs negative hereditary hemolytic anemia, neonatal anemia
HBELC	Hemoglobin Electrophoresis Cascade	Diagnostic hemoglobin testing – General
HGBCE	Hemoglobin Variant, A2 and F Quantitation	Monitoring of previously confirmed Hb variant, Hb A ₂ , Hb A, and Hb F percentages (not diagnostic)
MEVP	Methemoglobinemia Evaluation	Cyanosis, causes of methemoglobin/sulfhemoglobinemia
RBCME	Red Blood Cell Membrane Evaluation	Hereditary spherocytosis, hereditary pyropoikilocytosis
REVE	Erythrocytosis Evaluation	Longstanding <i>JAK2</i> negative erythrocytosis (elevated Hgb/Hct)
THEVP	Thalassemia and Hemoglobinopathy Evaluation	Complex diagnostic hemoglobin testing with comprehensive diagnosis
Molecular Testing Panels		
NGHHA	Hereditary Hemolytic Anemia Comprehensive Sequencing	Comprehensive genotyping for hemolytic anemia, neonatal anemia
NGMEM	Red Blood Cell Membrane Sequencing	Focused genotyping of presumed/known RBC membrane disorder
NGENZ	Red Blood Cell Enzyme Sequencing	Focused genotyping of presumed/known RBC enzyme disorder
NGCDA	Congenital Dyserythropoietic Anemia Sequencing	Focused genotyping of presumed/known CDA disorder

Test Description	Test IDs	HBELC	THEVP	HGBCE	HAEVP	REVE	MEVP	RBCME	EEVP	Available as a stand-alone (Test ID)
Capillary Electrophoresis	HBEL	✓	✓	✓	✓	✓	✓			Y (HGBCE)
Cation exchange HPLC	A2F	✓	✓		✓	✓	✓			
Mass Spectrometry, Intact Hb variant	MASS	R	R		R	✓	R			
Isoelectric Focusing (IEF)	IEF	R	R		R	R	R			
Sickle Solubility	SDEX	R	R		R	R	R			Y
Hb Stability (Heat and Isopropanol)	UNHB	R	R		✓	R	R			
Hb F RBC distribution, flow cytometry	HPFH	R	R		R	R	R			
Serum ferritin	FERR		✓*							Y
PB Smear Morphology Review	PBSM/SMPB				✓**			✓**		
Osmotic Fragility, Incubated	FRAG				✓***			✓***		Y
EMA binding/band3, flow cytometry	BND3				✓***			✓***		
G6PD enzyme activity (1 st tier)	G6PD				✓				✓	Y
PK enzyme activity (1 st tier)	PK				✓				✓	Y
Glucose phosphate isomerase activity (1 st tier)	GPI				✓				✓	Y
Hexokinase activity (1 st tier)	HEXK				✓				✓	
AK, PFK, PGK, TPI, P5NT (2 nd tier)	RBCE				R				R	Y (P5NT only)
Reduced Glutathione level	GLTI				R				R	
Oxygen dissociation (p50), spectrophotometry	P50P					✓***				Y (P50B)
Methemoglobin, spectrophotometry	METH						✓			Y (MET)
Sulfhemoglobin, spectrophotometry	SULF						✓			Y (MET)
METR (cb5r) activity, spectrophotometry	METR						✓			Y
DNA seq, alpha globin (<i>HBA1</i> , <i>HBA2</i>)	WASQR	R	R		R	R	R			Y (WASEQ)
MLPA alpha globin cluster, alpha del/dup	ATHAL	R	R		R	R	R			Y
DNA seq, beta globin (<i>HBB</i>)	WBSQR	R	R		R	R	R			Y (WBSEQ)
MLPA beta globin cluster, beta del/dup	WBDDR	R	R		R	R	R			Y (WBDD)
DNA seq, gamma globin (<i>HBG1</i> , <i>HBG2</i>)	WGSQR	R	R		R	R	R			Y (WGSEQ)
DNA seq, hereditary erythrocytosis (<i>EPOR</i> , <i>HIF2a</i> , <i>PHD2</i>)	HEMP					R				Y
DNA seq, 2,3-BPG mutase (<i>BPGM</i>)	BPGMM					R				Y
DNA seq, von Hippel Lindau (<i>VHL</i>)	VHLE					R				Y
DNA seq and del/dup, pyruvate kinase (<i>PKLR</i>)	PKLR				S				S	Y
DNA seq, glucose-6-phosphate dehydrogenase (<i>G6PD</i>)	G6PDB				S				S	Y
Hereditary Hemolytic Anemia seq panel	NGHHA				S			S	S	Y
RBC Membrane seq panel	NGMEM				S			S		Y
RBC Enzyme seq panel	NGENZ				S				S	Y
Congenital dyserythropoietic anemia seq panel	NGCDA				S					Y

✓ = always performed
Y = Yes (available)

R = possible reflex
S = separate order required

* = performed if serum sample received
** = performed if smear received
*** = Performed if normal shipping control received