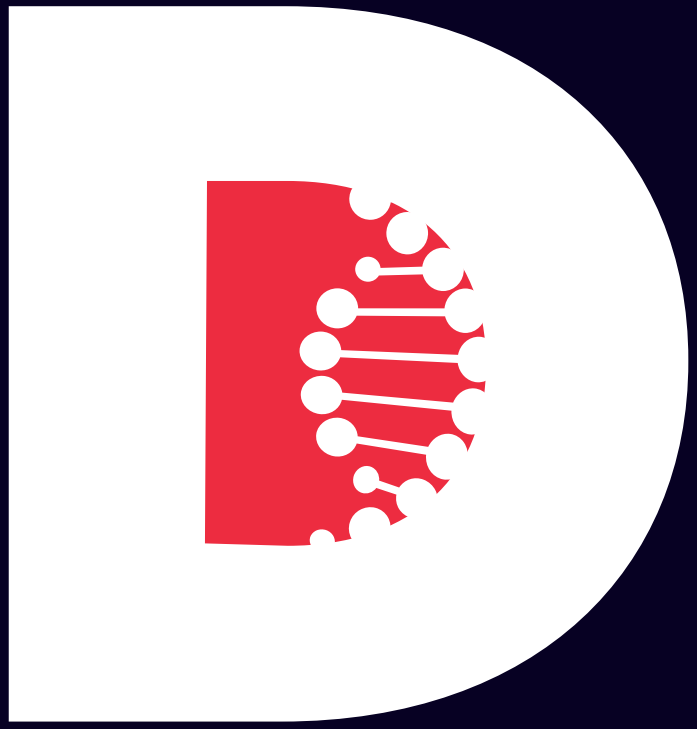
Anemia

A FREE GENETIC TEST MAY REVEAL THE CAUSE OF YOUR PATIENT'S HEREDITARY ANEMIA.



To help physicians reach a diagnosis for their patients, Agios, in partnership with PerkinElmer Genomics, is sponsoring Anemia ID, a free genetic testing program for patients with suspected hereditary anemias (HAs).

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The Anemia ID panel

Anemia ID is a next-generation sequencing (NGS) panel specifically designed to test for more than 50 genes specific to hereditary HAs. HA symptoms can vary based on the specific anemia and the individual who has it. The overlap and variability of symptoms across anemias contributes to difficulties in diagnosis.[1]

Both saliva and blood testing kits are available; saliva testing kits can be sent directly to your patient.

To order:

1. Fill out the form on **AnemiaID.com**
2. Kits arrive within 3 business days
3. Collect sample(s) and return as directed
4. Expect results in approximately 21 business days

For genetic counseling information, and to order a kit today, visit AnemiaID.com

Review the full list of genes and disorders included on the back panel.

Congenital dyserythropoietic anemias	
Disorder	**Gene**
Congenital dyserythropoietic anemia (CDA)	*C15ORF41, CDAN1, SEC23B, KIF23*
GATA1-related thrombocytopenia	*GATA1*
Majeed syndrome	*LPIN2*
Sideroblastic anemia	*ALAS2*

Diamond-Blackfan anemia
Genes
RPL5, RPL11, RPL35A, RPS7, RPS10, RPS19, RPS24, RPS26

Enzymopathies (RBC enzyme disorders)	
Disorder	**Gene**
Adenylate kinase deficiency	*AK1*
Aldolase A deficiency	*ALDOA*
G6PD deficiency	*G6PD*
Gamma-glutamylcysteine synthetase deficiency	*GCLC*
Glucose phosphate isomerase deficiency	*GPI*
Glutathione peroxidase deficiency	*GPX1*
Glutathione reductase deficiency	*GSR*
Glutathione synthetase deficiency	*GSS*
Glycogen storage disease VII	*PFKM*
Hexokinase deficiency	*HK1*
Methemoglobinemia due to deficiency of methemoglobin reductase	*CYB5R3*
Phosphoglycerate kinase 1 deficiency	*PGK1*
Pyruvate kinase deficiency	*PKLR*
Triosephosphate isomerase deficiency	*TPI1*
Uridine 5-prime monophosphate hydrolase deficiency	*NT5C3A*

Membranopathies (RBC membrane disorders)	
Disorder	**Gene**
Congenital X-linked hemolytic anemia	*ATP11C*
GLUT1 deficiency	*SLC2A1*
Hereditary elliptocytosis	*EPB41, GYPC, SPTA1, SPTB*
Hereditary pyropoikilocytosis	*SPTA1, SPTB*
Hereditary spherocytosis	*ANK1, EPB42, SLC4A1, SPTA1, SPTB*
Hereditary stomatocytosis	*ABCG5, ABCG8, KCNN4, PIEZO1, RHAG, SLC2A1, SLC4A1*
McLeod neuroacanthocytosis syndrome	*XK*
Ovalocytosis	*SLC4A1*
Porencephaly	*COL4A1*

Hyperbilirubinemias	
Gilbert syndrome	*UGT1A1, UGT1A6, UGT1A7*
Hyperbilirubinemia, rotor type	*SLCO1B1, SLCO1B3*

Genetic testing may help place a definitive diagnosis within reach*

Because HAs comprise a range of highly heterogeneous disorders that occur infrequently, differentiating among them is exceedingly complex.[2]

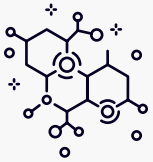
A definitive diagnosis makes genetic counseling possible, enabling patients to recognize the risk their disease poses to their health and the management strategies now open to them.

Genetic counseling can help your patient to:

- Understand reproductive risk

- Make the most of disease-state education

- Open up opportunities for clinical trial participation



- Connect with others diagnosed with their condition

Order a kit today.
Visit AnemiaID.com

*Genetic testing alone cannot provide a definitive diagnosis.

References: 1. Fermo E, Vercellati C, Bianchi P. Screening tools for hereditary hemolytic anemia: new concepts and strategies. *Expert Rev Hematol.* 2021;14(3):281-292 **2.** Russo R, Andolfo I, Manna F, et al. Multi-gene panel testing improves diagnosis and management of patients with hereditary anemias. *Am J Hematol.* 2018;93(5):672-682.

This program is only available to residents of the United States. All testing provided to patients through Anemia ID is paid for by Agios Pharmaceuticals. While Agios provides financial support for this program, all tests and services are performed by PerkinElmer Genomics. Agios receives contact information for healthcare professionals who submit tests under this program and limited de-identified aggregate data. Anemia ID is sponsored by Agios in partnership with PerkinElmer Genomics. Other laboratories may also offer genetic testing.