

RBC Enzyme Assay

[RBC and Enzyme writing an Essay](#)

An RBC enzyme assay is a panel that tests for various RBC enzyme deficiencies in patients with either acute or chronic hemolytic anemia and can confirm a pyruvate kinase deficiency. It may also be useful to order a blood smear, CBC with differential, and reticulocyte count to support the diagnosis.

Echinocytes

[Echidna-cell](#)

Echinocytes, also known as burr cells, may appear on a blood smear for a patient with pyruvate kinase deficiency. These cells have a serrated appearance with small uniform projections that result from poor membrane stability due to a chronic lack of ATP.

Burr Cells

[Burr Cell](#)

Burr cells are another name for echinocytes. These thorny, misshapen cells may appear on a blood smear for a patient with pyruvate kinase deficiency. Think of a burr that sticks to clothing to picture the shape of these cells.

Small Uniform Projections

[Small-sized Uniform with Projections](#)

Burr cells, or echinocytes, have a misshapen cell membrane that looks like it has many spines or thorns along the surface. In fact, "ekhinos" is the Greek word for "sea urchin."

Normocytic Anemia

[Normal-sized-cells Anemone](#)

In normocytic anemia, patients are in an anemic state with a mean corpuscular volume (MCV) between 80 and 100 fL and a corrected reticulocyte count greater than 3%.