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**Lab Dept:** Chemistry

**Test Name:** **UDP-GALACTOSE 4' EPIMERASE (GALE),  
BLOOD**

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***General Information***

**Lab Order Codes:** GALE

**Synonyms:** Galactosemia; Uridine diphosphate galactose-4-epimerase

**CPT Codes:** 82542 – Column chromatography, includes mass spectrophotometry, if performed, non-drug analytes not elsewhere specified, qualitative or quantitative, each specimen

**Test Includes:** UDP-Galactose 4' epimerase level reported in nmol/h/mg of hemoglobin.

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***Logistics***

**Test Indications:** Diagnosis UDP-galactose 4' epimerase deficiency.

**Lab Testing Sections:** Chemistry - Sendouts

**Referred to:** Mayo Medical Laboratories (Mayo Test: GALE)

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 8 - 15 days, performed weekly on Wednesdays

**Special Instructions:** N/A

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***Specimen***

**Specimen Type:** Whole blood

**Container:** Lavender top (EDTA) tube  
Alternate: Green top (NaHep), Green top (LiHep) or Yellow top (ACD) tube

**Draw Volume:** 5 mL (Minimum: 2 mL) blood

**Processed Volume:** Same as Draw Volume

<b>Collection:</b>	Routine blood collection
<b>Special Processing:</b>	Lab Staff: Do Not centrifuge. Specimen should remain in original collection tube. Store and ship at refrigerated temperatures. Forward promptly.
<b>Patient Preparation:</b>	None
<b>Sample Rejection:</b>	Mislabeled or unlabeled specimens; gross hemolysis

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### ***Interpretive***

**Reference Range:**  $\geq 3.5$  nmol/h/mg of hemoglobin  
An interpretive report will be provided.

**Critical Values:** N/A

**Limitations:** This assay is not useful for monitoring dietary compliance. See Galactose-1-Phosphate, Erythrocytes

This assay will not detect epimerase (GALE) deficiency or galactose-1-phosphate uridylyltransferase (GALT) deficiency.

It is important to notify the laboratory if the patient has been transfused prior to specimen collection. The results of testing performed in erythrocytes are invalid following a transfusion, including analysis of enzymes, biochemical phenotyping, or galactose-1-phosphate.

The most common cause of galactosemia is GALT. In most cases, GALT deficiency should be ruled out prior to evaluating for GALK deficiency.

**Methodology:** Enzyme Reaction followed by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**References:** [Mayo Medical Laboratories](#) December 2017

**Updates:** 12/14/2017: Updated CPT and reference range.  
2/6/2018: Updated reference range, previously listed as  $>5.0$  nmol/h/mg hemoglobin