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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***

<b>Reference Range:</b>	<p>&gt;=3.5 nmol/h/mg of hemoglobin</p> <p>An interpretive report will be provided.</p>
<b>Critical Values:</b>	N/A
<b>Limitations:</b>	<p>This assay is not useful for monitoring dietary compliance. See Galactose-1-Phosphate, Erythrocytes</p> <p>This assay will not detect epimerase (GALE) deficiency or galactose-1-phosphate uridylyltransferase (GALT) deficiency.</p> <p>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.</p> <p>The most common cause of galactosemia is GALT. In most cases, GALT deficiency should be ruled out prior to evaluating for GALK deficiency.</p>
<b>Methodology:</b>	Enzyme Reaction followed by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
<b>References:</b>	<a href="#">Mayo Medical Laboratories</a> December 2017
<b>Updates:</b>	<p>12/14/2017: Updated CPT and reference range.</p> <p>2/6/2018: Updated reference range, previously listed as &gt;5.0 nmol/h/mg hemoglobin</p>