



### **Uridyltransferase (GALT) Test**

The Astoria-Pacific SPOTCHECK<sup>®</sup> Galactose-1-phosphate uridyltransferase (GALT) test is used as an aid in screening for Galactosemia due to decreased levels of GALT enzyme activity in newborns.

Galactose -1- phosphate uridyltransferase (GALT) activity is determined by measuring its reaction products over time. GALT catalyzes the conversion of galactose -1- phosphate to glucose -1- phosphate. Further reactions with glucose -1- phosphate result in the reduction of NADP<sup>+</sup> to NADPH. The amount of fluorescent NADPH produced is proportional to the GALT enzyme activity.

The Astoria-Pacific SPOTCHECK<sup>®</sup> Analyzer measures the NADPH produced in each sample with a fluorometer (active channel). A second fluorometer (blank channel) is used to subtract any endogenous fluorescence that may be present in the sample thereby eliminating any false negatives. In addition, the intermediary enzymes phosphoglucomutase (PGluM) and G6PDH are added to ensure any lack of fluorescence is not due to inactivity of these enzymes in the sample. This helps eliminate any possible false positives. A sample integrity test can be performed on any samples that appear deficient in GALT by substituting PGluM substrate containing glucose -1- phosphate for the GALT substrate.

Whole blood, spotted on standardized filter paper, S&S<sup>®</sup> 903<sup>™</sup> or equivalent is suitable for analysis. The procedure is designed for use with one 3/16 inch spot or two 1/8 inch spots but may be adapted to alternative punch protocols with appropriate validation.

Other tests, such as Phenylalanine or Total Galactose, can be run with the GALT analysis simultaneously from the same extracted sample. For the GALT assay, two fluorometric detectors (active and blank channels) and two cartridges (active and blank) are required. The active cartridge includes an on-line incubator to enhance enzymatic response. Sample throughput is 90 per hour after an initial dwell time of approximately 80 minutes.

The SPOTCHECK<sup>®</sup> Uridyltransferase 50 Hour Reagent Kit is designed to be used on the Astoria-Pacific SPOTCHECK<sup>®</sup> Analyzer. The kit contains all necessary reagents needed for analysis and will provide approximately 50 hours of analyzer run time. Allowing for start up and calibrants, the approximate number of actual samples analyzed per kit is conservatively 2500.