

# RAPIDVAP

## BENCHNOTES

### *Diagnostic Preprocessing Method for Hereditary Metabolic Disorders in Newborns*

**Principle:** *Newborns with certain hereditary metabolic disorders and diabetes show no outward physical manifestations at birth. Before the newborn shows symptoms, early diagnosis can be achieved by urinalysis using GC/MS. The RapidVap Vacuum Evaporation System provides a means of concentrating specimens prior to analysis using GC/MS. This urinalysis method can detect more than 20 hereditary metabolic disorders, compared to four using blood, and is less painful for the newborn.*

#### **Apparatus**

- RapidVap Vacuum System with Lid Heater (7900002 series)
- Sample Block for 12 mm vials (7491400)
- Large Diaphragm Vacuum Pump (7917100 series)
- 12 mm glass vials
- Gas Chromatograph/Mass Spectrometer (GC/MS)

#### **Procedure**

1. Pre-heat the RapidVap to 35° C.
2. Inject 1 ml of urine into 5 ml glass vials.
3. Add a small amount of ethanol to each sample.
4. With block in the RapidVap, place the vials into block.
5. Program the RapidVap to the following parameters:
  - a. Temperature 35° C
  - b. Speed 30%
  - c. Time 15 minutes
  - d. Vacuum 20 mbar
6. Evaporate to dryness.
7. After evaporation is complete, reconstitute with OH (organic passive compound).
8. Analyze using Gas Chromatography and Mass Spectrometry.

#### **Reference**

Associate Professor Inokuchi, Medical Department, Kurume University, Kyusyu Island, Japan

*This method is for reference only. It is not a citable document. It is based on data we believe to be reliable. It is offered in good faith but without guarantee.*

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