Technical Bulletin

γ-Glutamyl-Transferase (GGT), DBS

Self-Collection Capillary Blood Microsample Method.

Performance Characteristics

● Within-Run Precision

Within-run precision was determined by testing microsamples containing two concentrations of GGT. Each of the microsamples was tested ten times:

Mean GGT (IU/L)	Standard Deviation	Coefficient of Variation (%)
21.8 142.0	2.1 1.2	9.7 0.9

● Clinical Sensitivity and Specificity

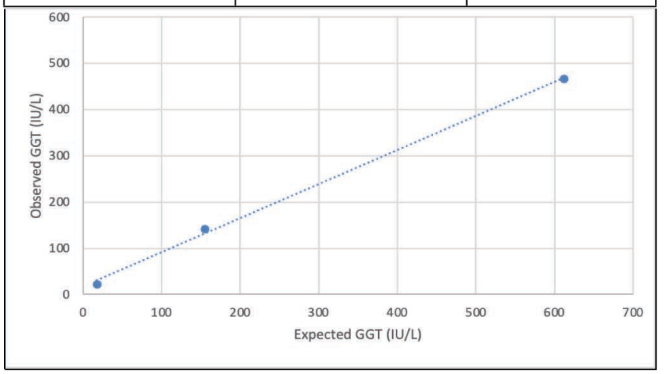
Clinical sensitivity and specificity were determined by testing paired venous samples and capillary blood microsamples from 34 donors and the results evaluated at a cut-off value of 60 IU/L:

N=34	Capillary GGT ≥ 60 IU/L	Capillary GGT < 60 IU/L
Venous GGT ≥ 60 IU/L < 60 IU/L	14 0	0 20

● Linearity

Capillary blood samples containing different levels of GGT, expanding throughout the reportable range, were selected and the assay was performed in triplicate:

Observed GGT (IU/L)	Expected GGT (IU/L)	Recovery (%)
22.0 142.0 466.0	18.0 155.0 612.0	122.2 91.6 76.1



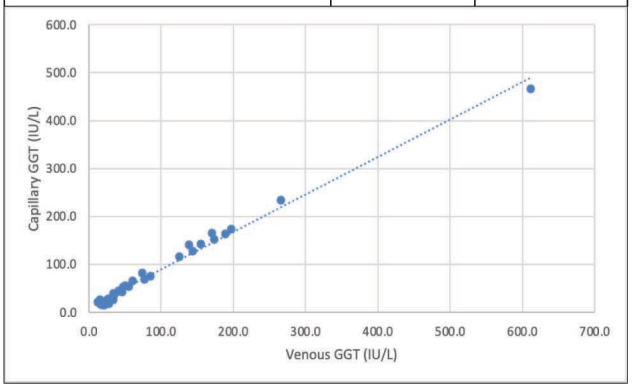
● Microsample Stability

GGT dried blood microsamples are stable for two weeks when stored at ambient temperature during regular shipping and handling conditions.

● Accuracy

Paired venous samples, and capillary blood microsamples containing varying concentrations of GGT were tested. GGT concentrations observed for the dried blood microsamples versus venous (kinetic method) were statistically analyzed by simple regression.

N=34		
Correlation Coefficient		0.9880
Slope		0.7824
Intercept		11.93
	Microsample	Comparable Standard Method
Mean Value of GGT	83.2	91.1
Standard Deviation of Range	88.9	113.0



● Sample Requirements

The GGT dried blood microsample test requires capillary blood placed into a Microcollection device. The device is then placed in the return box and mailed to the laboratory for analysis.

● Convenience and Simplicity

Simple stepwise instructions are provided to health awareness participants for collection of a Microsample using a finger lancet:

1. The collection kit is provided
2. Participant deposits 5 blood drops into transport device
3. The Microsample is mailed to the laboratory

● Interpretation

GGT levels greater than 60 IU/L are associated with abnormal liver function or damage to the bile ducts, but most commonly linked to excessive consumption of alcoholic beverages.