Clinical Use
- Assess carbohydrate metabolic status
- Diagnose diabetes mellitus
- Diagnose hypoglycemia

Reference Range
Adolescents and adults* mg/dL
  Normal 65-99
  Impaired 100-125
  Diabetes >125
*Fasting

Interpretive Information
- Diabetes mellitus
- Cushing’s syndrome
- Pheochromocytoma
- Islet cell tumor
- Glucagon deficiency
- Addison’s disease
- Hypoglycemic syndromes

Clinical Background
Blood glucose concentrations are narrowly maintained by balancing hormonal factors. Insulin promotes glucose utilization and storage, lowering blood levels. Carbohydrate ingestion raises blood glucose concentrations; peak levels are modulated by stimulated insulin secretion. Several counter regulatory hormones (glucagon, growth hormone, cortisol, catecholamines) function to increase glucose concentrations by stimulating glycogenolysis, gluconeogenesis and increased hepatic glucose output, raising blood glucose at the expense of carbohydrate and other substrate stores.

Method
- Spectrophotometry (hexokinase)
- Analytical sensitivity: 2 mg/dL

Specimen Requirements
1 mL refrigerated serum
0.2 mL minimum
No additive red top preferred
SST red top acceptable
Overnight fasting is preferred.