

<h2>Glucose (CSF)</h2>	
Description	Glucose in the CSF
Indication	Differential diagnosis of meningitis
Additional Info	<p>CSF glucose concentration is normally two thirds of the plasma glucose concentration measured during the preceding two to four hours in a normal adult. This ratio decreases with increasing plasma glucose levels. CSF glucose generally does not exceed 17 mmol/L regardless of plasma levels. Glucose in the CSF of neonates varies much more than in adults, and the CSF/serum ratio is generally higher than in adults.</p> <p>Infections in the central nervous system can cause low CSF glucose (hypoglycorrhachia) as many bacteria metabolise glucose and the blood brain barrier minimises transversal. In particular, hypoglycorrhachia may be associated with bacterial meningitis. However, normal levels do not rule out infection as up to 50% of patients with bacterial meningitis have normal CSF glucose, and levels are usually normal in viral infections. A number of other conditions also cause hypoglycorrhachia. The only cause of an elevated CSF glucose level is elevated plasma glucose.</p>
Concurrent Tests	Plasma glucose (Fluoride K EDTA tube).
Dietary Requirements	N/A
Interpretation	<p>Results must be interpreted in relation to the plasma glucose result. The CSF/serum glucose ratio is normally 0.6.</p> <p>Increased CSF Glucose:</p> <ul style="list-style-type: none"> • Reflects plasma hyperglycaemia <p>Decreased CSF Glucose:</p> <ul style="list-style-type: none"> • Hypoglycaemia • Granulomatous process (bacterial tuberculosis, sarcoidosis) • Chemical meningitis • Bacterial meningitis (protein normal in 50% of cases) • Fungal meningitis • Subarachnoid haemorrhage • Neoplasm • Certain CNS viral infections (herpes simplex virus, mumps, lymphocytic choriomeningitis)

Collection Conditions	Fluoride K EDTA tube (Sarstedt yellow top).
Frequency of testing	As required.