

# Valproate

<b>Description</b>	Valproate (or valproic acid) is an anticonvulsant drug used for all forms of epilepsy.
<b>Indication</b>	Therapeutic drug monitoring
<b>Additional Info</b>	<p>Valproate (Epilim/Depakote). At therapeutic concentrations, &gt;90% of Valproate is protein bound, mainly to albumin. Binding is saturable and at high valproate concentrations, low albumin levels and in hepatic disease the free fraction increases. Other compounds can compete for Valproate binding to albumin including salicylate and free fatty acids.</p> <p>Valproate displaces phenytoin from protein and gives a higher free phenytoin fraction. Valproate also inhibits the non-renal clearance of phenobarbital.</p> <p>Valproate may cause liver dysfunction and a prolonged prothrombin time warrants withdrawal from use.</p>
<b>Concurrent Tests</b>	N/A
<b>Dietary Requirements</b>	N/A
<b>Interpretation</b>	<p>No therapeutic range is quoted for Valproate (Pathology Harmony 2011) as serum/plasma concentrations do not correlate well with anticonvulsant activity. However, toxic effects are commonly observed at levels &gt; 100 mg/L.</p> <p>The half-life is 8-20 hours and the time to reach steady state is 2-4 days.</p> <p>The metabolism of Valproate can be induced by the co-administration of other anticonvulsants such as carbamazepine and phenytoin.</p>
<b>Collection Conditions</b>	Plain serum sample required (Sarstedt white top tube). Pre-dose
<b>Frequency of testing</b>	<p>As required if toxicity is suspected.</p> <p>Measure 3 days after dosage change during initial dose optimisation.</p> <p>Measure pre-dose as required from then on.</p>