

γ-Glutamyl transferase (GammaGT) (Plasma)

Description	<p>γ-Glutamyl transferase (GGT) is an enzyme that catalyses the transfer of an γ-glutamyl group (a glutamate residue from a terminal carboxyl group) from a peptide to an acceptor (peptide, amino acid or water).</p> <p>Physiologically it is present in serum and in all cells except muscle cells. Although some of the enzyme is present in the cytosol, it is largely a membrane protein, and may play a role in transporting peptides across the cell membrane.</p> <p>GGT present in serum is primarily of hepatobiliary origin and is elevated in most forms of liver disease.</p> <p>The highest levels are seen in intra-hepatic and post-heptic biliary obstruction, where levels and may be 5 – 30 times the upper limit of normal.</p>
Indication	<p>GGT may be analysed as part of a Liver Function Test (LFT) profile or requested in addition to deranged LFTs to aid interpretation.</p> <p>Measurement of GGT may help to determine whether a raised ALP is due to skeletal or hepatobiliary disease. Raised GGT indicates ALP is likely to be of liver origin, whereas with a normal GGT, raised ALP is likely to be bone in origin, though liver is not ruled out.</p> <p>GGT measurement may be used to screen for alcohol abuse or check adherence following a treatment programme. It can take at least a month for GGT to return to normal levels following abstinence from alcohol.</p>
Additional Info	N/A
Concurrent Tests	Liver function tests, including: ALP, bilirubin, ALT, albumin
Dietary Requirements	N/A.
Interpretation	<p>Raised levels indicate cholestatic, rather than hepatocellular damage and may be seen in obstructive jaundice, cholangitis, cholecystitis, primary or metastatic neoplasm.</p> <p>GGT may also be induced (reflecting toxic activity of the drug or alcohol on microsomal structures in liver cells) by alcohol or drugs, including NSAIDs, lipid-lowering drugs, antibiotics, histamine blockers, antifungal agents, anticonvulsants, antidepressants and hormones such as testosterone; Whereas oral contraceptives and clofibrate can decrease GGT levels.</p>

	However, as GGT is also raised in many liver diseases, including infectious hepatitis as well as other non-hepatic conditions such as heart failure, it is a non-specific marker.
Collection Conditions	N/A
Frequency of testing	Non acute setting: 1-3-month intervals ¹ Acute setting: weekly intervals ²

1-Primary Care and Laboratory Medicine, Frequently Asked Questions (2011), Smellie S, Galloway M, McNulty S. ACB Venture Publications

2-National Minimum Re-testing Interval Project: A final report detailing consensus recommendations for minimum re-testing intervals for use in Clinical Biochemistry (2013). <http://www.acb.org.uk/docs/default-source/guidelines/acb-mri-recommendations-a4-computer.pdf?sfvrsn=2>