

Lactate Dehydrogenase (LDH)

Description	Cytosolic enzyme of energy metabolism
Indication	Suspected cellular/tissue damage (e.g. haemolytic anaemia, myocardial infarction, hepatitis), haematological malignancy, germ cell tumours.
Additional Info	LDH catalyses the interconversion of lactate and pyruvate and is released into the blood from damaged cells. Due to its wide tissue distribution, it has no specific diagnostic value and is used as a general marker of cellular injury. The use of LDH in diagnosing myocardial infarction is now limited, since it has been replaced by more specific tests, e.g. troponin. There are five LDH isoenzymes (LDH-1 to LDH-5) and different tissues have different isoenzyme expression. The assay measures total LDH activity.
Concurrent Tests	Germ cell tumours – hCG, AFP, PALP
Dietary Requirements	N/A
Interpretation	<p>LDH is elevated in a wide variety of conditions, e.g. myocardial infarction, disorders of the liver, kidneys, lung and muscle, malignancy and haemolysis.</p> <p><u>Malignancy</u> LDH is raised non-specifically in malignancy, limiting its use as a tumour marker. Levels correlate with tumour mass in solid tumours and it has been shown to be a useful prognostic indicator for disease progression and outcome in germ cell tumours and haematological malignancies (non-Hodgkin's lymphoma).</p> <p><u>Myocardial Infarction</u> LDH reaches peak levels 2-3 days post MI, and remains elevated for 10-14 days.</p> <p><u>Haemolytic Anaemia</u> Up to 50x upper limit of normal in megaloblastic anaemia.</p> <p><u>Hepatic Disease</u> Up to 10x upper limit of normal in toxic hepatitis with jaundice, lower elevations in viral hepatitis, up to 2x upper limit of normal in cirrhosis and obstructive jaundice but may be normal.</p> <p><u>Physiological</u> Strenuous exercise may cause a temporary increase in LDH.</p> <p>Haemolysed samples, or a high platelet count may cause a falsely raised LDH concentration.</p>
Collection Conditions	N/A
Frequency of testing	As required.