Alkaline phosphatase (ALP) isoenzymes

Description	ALP is a 507 residue phosphomonoesterase, anchored to the cell membrane by a phosphatidylinositol-glycan moiety. Its exact role is unclear but has been shown to play a role in bone mineralisation and lipid transport. ALP is produced mainly by bone, liver, intestine and placenta.
Indication	To identify the source of ALP. ALP can be raised for a number of reasons. These include **Physiological** – neonates, adolescence, pregnancy (3rd trimester) **Liver disease** – hepatocellular, cholestasis, space occupying lesions e.g. tumour, cyst **Bone disease** – Paget's disease, malignancy, hyperparathyroidism, CKD, rickets/osteomalaceia, fracture **Malignancy** – bone, liver, ectopic
Additional Info	ALP isoenzymes should not be requested if total ALP activity is <150 IU/L.
Concurrent Tests	LFTs
Dietary Requirements	Fasting sample is preferred to minimise overestimation of liver isoform as intestinal ALP has similar heat stability to liver form. Intestinal ALP release can be stimulated by eating.
Interpretation	The test will identify the main source of ALP based on electrophoretic analysis and differential heat sensitivities of bone, liver and heat stable isoenzymes.
Collection Conditions	N/A
Frequency of testing	As required