

Table 1 - Common causes of artefactual results

Artefactual results are due to problems in specimen collection/handling or to pathological conditions. If there is any doubt or concern about a result the pathologist should be contacted for assistance.

	Sodium	Potassium	Total calcium	Albumin	Phosphate	Creatinine	LD	ALP	AST	Glucose	Lipids	APTT/PT	Hb/PCV	WCC	Platelet count
Prolonged venous stasis during collection (tourniquet)	-	-	Increased	Increased	-	-	-	-	-	-	Increased	May be shortened	Increased	Increased	Increased
Sample collected proximal to infusion (as indicated)	Increased (saline) Decreased (dextrose)	Increased (KCl) Decreased (other)	Decreased	Increased (plasma, albumin) Decreased (other)	Decreased	Decreased	Decreased	Decreased	Decreased	Increased (dextrose) Decreased (other)	Increased (TG with intralipid) Decreased (other)	Prolonged (heparin)	Decreased	Decreased	Decreased
Difficult or traumatic collection	-	Increased	-	-	-	-	Increased	-	Increased	-	-	May be shortened, prolonged	Decreased (may be small clot in sample)	Decreased (may be small clot in sample)	Decreased (may be small clot in sample)
Use of incorrect anticoagulant (as indicated)	Increased (Na ₂ EDTA or sodium citrate)	Increased (K ₂ EDTA)	Decreased (EDTA, citrate or oxalate)	-	-	-	-	Decreased (EDTA)	-	-	-	Prolonged (EDTA or heparin)	-	-	Decreased (heparin)
Too little blood added to anticoagulant	-	Increased (if marked discrepancy)	-	-	-	-	-	-	-	-	-	Prolonged	Artefactual changes in cell morphology on blood film	Artefactual changes in cell morphology on blood film	Artefactual changes in cell morphology on blood film
Too much blood added to anticoagulant	-	-	-	-	-	-	-	-	-	-	-	May be shortened, prolonged	Decreased (may be small clot in sample)	Decreased (may be small clot in sample)	Decreased (may be small clot in sample)
Prolonged storage or refrigeration of whole blood	Decreased (RT or 4°C)	Increased (RT or 4°C)	-	-	Increased (RT)	-	Increased (RT or 4°C)	-	Increased	Decreased (RT)	-	Prolonged (RT or 4°C)	Artefactual changes in cell morphology on blood film	Decreased artefactual changes in cell morphology on blood film	Decreased artefactual changes in cell morphology on blood film
Extreme leucocytosis	-	Increased	-	-	-	-	Increased	-	-	Decreased	-	-	Hb may be increased	-	-
Extreme thrombocytosis	-	Increased	-	-	-	-	Increased	-	-	Decreased	-	-	-	-	-
Marked erythrocytosis	-	-	-	-	-	-	-	-	-	Decreased	-	Prolonged	-	-	-
Marked lipaemia	Decreased	-	Possible interference with assay	Possible interference with assay	Possible interference with assay	Possible interference with assay	Possible interference with assay	Possible interference with assay	Possible interference with assay	Interference with assay	-	Interference with automated methods	Hb may be increased	-	-
Marked hyperglobulinaemia	Decreased	-	Decreased	-	-	-	-	-	-	-	-	-	Hb may be increased	-	-
Marked jaundice	-	-	-	-	-	Decreased (some methods)	-	-	-	Decreased (some methods)	-	-	-	-	-

Comments relate to potentially clinically significant effects.

ALP, alkaline phosphatase; APTT, activated partial thromboplastin time; AST, aspartate aminotransferase; Hb, haemoglobin; LD, lactate dehydrogenase; PCV, packed cell volume; PT, prothrombin time; RT, room temperature (~22°C); TG, triglyceride; WCC, white cell count.