

A rapid high performance analysis for lactate in whole blood, plasma or serum, based on the direct reaction with Lactate Oxidase.

Bulletin Reference	TB – Lactate – Clinical – GMRD-090 – V.01
Order Code(s)	GMRD-090/093/092
Reagent Kit Size(s)	70 ml (100 analyser cycles), 175 ml (250 analyser cycles), 4 x 175 ml (4 x 250 analyser cycles)
Instruments	All GM7, LM5 and GL5 Series analysers
Samples	Plasma, serum, whole blood (intact or lysed, collected in Analox tubes or capillaries), C.S.F., urine, neutralised perchloric acid extracts and other biological fluids
Sample Volume	7µl (variable 3.5 - 25 µl)
Analysis Time	20 seconds
Linearity	10 mmol/L (ca. 90 mg/dl) for 7 µl samples; 14 mmol/L (ca. 126 mg/dl) for 5 µl samples
Detection Limit	0.3 mmol/L (ca. 2.7 mg/dl)
Precision (Within Run)	C.V. of 2 % @ 2.5 mmol/L
Accuracy	i) Method comparison for whole blood vs YSI 23L: y (Analox) = 0.98x + 0.055 mmol/L, r = 0.9991, n = 56 ii) Method comparison for lysed whole blood vs classical PCA extract spectrophotometric: y (Analox) = 0.99x - 0.05 mmol/L, r = 0.992, n = 24
Reagent Stability	Shelf-life unopened: 12 months stored at 0 - 5°C. Shelf-life reconstituted: 60 days stored at 0 - 5°C.
Note	Lactate methodology has excellent precision at all levels, stable calibration, and is remarkably free from interferences. An extensive range of specifically formulated systems for whole blood collection and preservation are also available. Alternative standards at 3.0 and 5.0 mmol/L, and a liquid quality control material, are available in addition to the kit calibrant of 8.0 mmol/L (72.1 mg/dl).

Principle

In the presence of molecular oxygen, lactate is oxidised by the enzyme Lactate Oxidase (LOD) to pyruvate and hydrogen peroxide,



Under the conditions of the assay, the rate of oxygen consumption is directly proportional to the L-lactate concentration.