

A fast enzymatic analysis for plasma L-glutamine.

Bulletin Reference	TB – Glutamine – Clinical – GMRD-150 – V.01
Order Code(s)	GMRD-150
Reagent Kit Size(s)	100 ml (140 analyser cycles)
Instruments	All GM7 series analysers
Samples	Plasma (Heparinised)
Sample Volume	100 µl
Analysis Time	20 seconds (from injection)
Linearity	2.0 mmol/L (2000 µmol/L)
Detection Limit	0.02 mmol/L (20 µmol/L)
Precision (Within Run)	C.V. of 1 - 2 % @ 0.6 mmol/L
Reagent Stability	Shelf-life unopened: 9 months stored at 0 - 5°C. Shelf-life reconstituted: GLDH/NADH/α-ketoglutarate, 7 - 10 days stored at 0 - 5°C; POD reagent 5 - 6 weeks at 0 - 5°C
Note	2 vials of enzyme reagent are provided to maximise kit life. A sample blank allows for background interference by endogenous ammonia and other NADH consuming reactions.

## Principle

i) L-glutamine is converted to ammonia and L-glutamate by the enzyme glutaminase (GLU) in a brief pre-reaction,



ii) Ammonia, either endogenous or liberated in the above reaction, forms L-glutamate with α-ketoglutarate in the presence of glutamate dehydrogenase (GLDH) and excess NADH,



iii) Under the conditions of the assay, the rate of oxidation of excess NADH by peroxidase (POD) is inversely proportional to the total ammonia present.

