

Total Protein-SL

Single Vial Stable Liquid, Ready to Use

For over 80 years, the various modifications of the biuret reaction have been used to measure total serum proteins. DCL's Total Protein-SL features an advanced "low alkali-high copper sulfate" biuret formulation which provides a high degree of reagent stability and high end linearity while maintaining accurate reproducible absorbance changes with the dominant serum protein fractions. With validated parameters for many of today's most popular instruments, this ready to use, single vial stable liquid reagent is available in a variety of cost effective formats for both low and high volume laboratories.

The Biuret Complex

Under alkaline conditions, cupric ions (Cu^{2+}) complex with the carbonyl oxygen and amide nitrogen atoms of the peptide bonds within the protein. The absorbance optimum of most copper-protein complexes is 540 nm.

Principle

Protein + Cu^{2+} \rightarrow blue-violet complex
The increase in absorbance at 540 nm due to the formation of the colored complex is directly proportional to the concentration of protein in the reaction.

Linear Range (NCCLS EP6-P)

The procedure is linear to 100 g/L (10.0 g/dL).

Accuracy (NCCLS EP9-P)

The performance of this method (y) was compared with the performance of a similar biuret method (x). Linear regression analysis gave the following equation:
This method = 1.037 (reference method) - 3.6 g/L

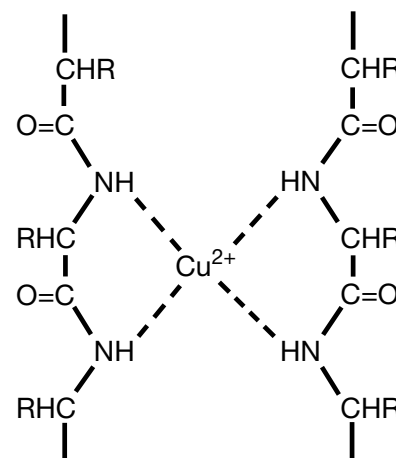
Precision Studies (NCCLS EP5-T2)

Data was collected on two control sera using a single lot of reagent in two runs conducted over 10 days.

Total Protein	Mean g/L	Standard Deviation g/L	Coefficient of Variation %
Serum 1	48	0.8	1.7
Serum 2	63	1.0	1.6

Within-day precision was established by assaying two control sera 24 times.

Total Protein	Mean g/L	Standard Deviation g/L	Coefficient of Variation %
Serum 1	48	0.3	0.6
Serum 2	63	0.8	1.3



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Diagnostic Chemicals Limited

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Total Protein-SL

Single vial stable liquid, ready to use formulation, 36 month shelf life at 18-26°C

Cat. No. 200-55	Biuret, Endpoint, 540 nm	4 x 125 mL
Cat. No. 200-70	Biuret, Endpoint, 540 nm	1 x 1000 mL
Cat. No. 200-71	Biuret, Endpoint, 540 nm	10 x 100 mL

Associated Products

Cat. No. SE-035	DC-Cal Calibrator	5 x 3 mL
Cat. No. SM-052	DC-Trol Level 1 Control (Normal)	10 x 5 mL
Cat. No. SM-056	DC-Trol Level 2 Control (Abnormal)	10 x 5 mL