

Fully Automated Coagulation Analyser

CS-5100

Exceptional Productivity without
Compromise on Quality or Safety





EXCEPTIONAL PRODUCTIVITY

Highest Throughput

For both simple and complex assay panels.

Parameter	Throughput (tests/hour)
PT	400
PT/APTT	400
PT/APTT/Fbg/AT/DD	270



Automation Connectivity

With the CS-5100 system there is an option to connect to a laboratory automated transport system (LAS) using direct sampling, without the need for robotic arms, for greater reliability and efficiency.

Advanced cap-piercing technology

- Primary tube cap-piercing and sampling from a sample rack or LAS* reduces operator exposure to biohazardous materials.
- Both capped and open vial samples can be analysed from the same sample rack, reducing the sample processing time.

*Primary tube cap-piercing is available for GLP Systems.



HIGH QUALITY RESULTS

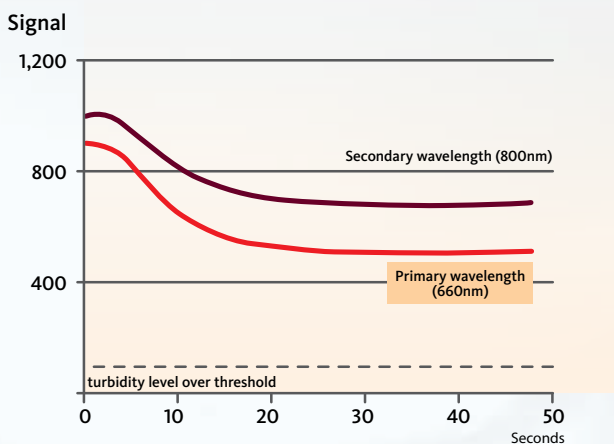
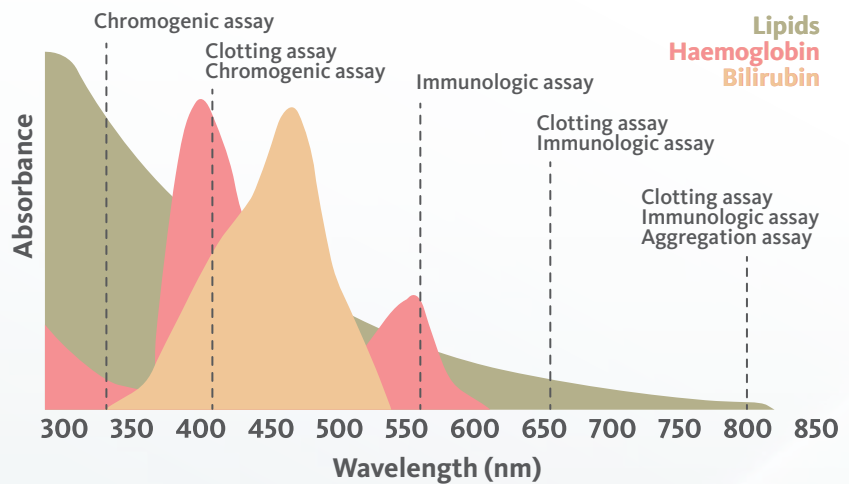
The Power of Multi-wavelength Technology

The CS-5100 system is equipped with an optical fiber that supplies light at five different wavelengths, and a detector capable of receiving light in multiple wavelengths.

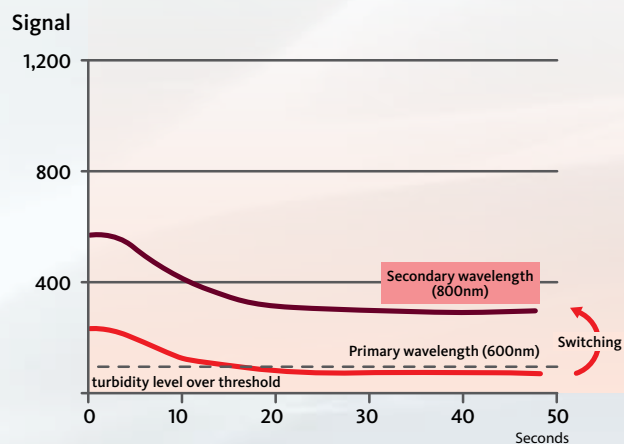
Having this multi-wavelength capability, the system takes care of, not just the analytical results, but also pre-analytical problems.

Utilised optimal wavelength for each measurement parameter

- Clotting assays are measured at the primary wavelength, 660nm, where chromatic substances will have minimum effect, ensuring a reliable result.
- Measurement is automatically switched to the secondary wavelength, 800nm, when the coagulation reaction shows only a small change at the primary wavelength, ensuring an accurate result, such as in the case of a severely lipemic or low fibrinogen sample.



Normal Reaction Curve



Abnormal Reaction Curve

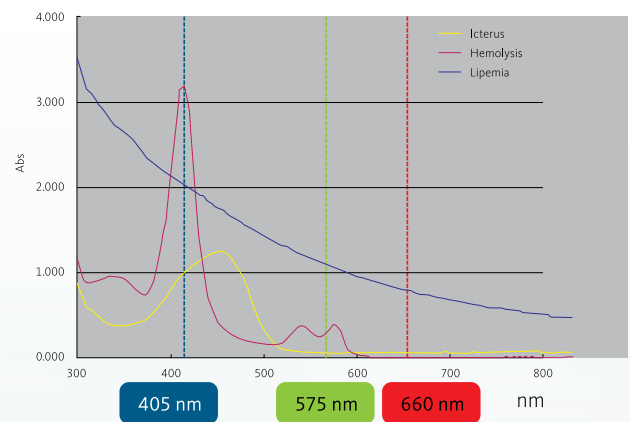


EXTRA SAFETY

Haemolysis and inappropriate filling of tubes are two of the most common pre-analytical problems in coagulation testing¹. For peace of mind, on-board, automated pre-analytic checks ensure the integrity of the sample before analysis and flag the result if the sample is of questionable quality, as well as further streamlining the sample handling process on track systems.

Assay-specific HIL Check for Interfering Substances

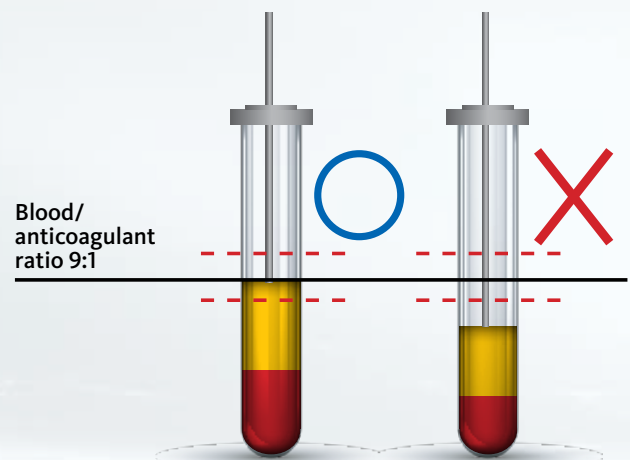
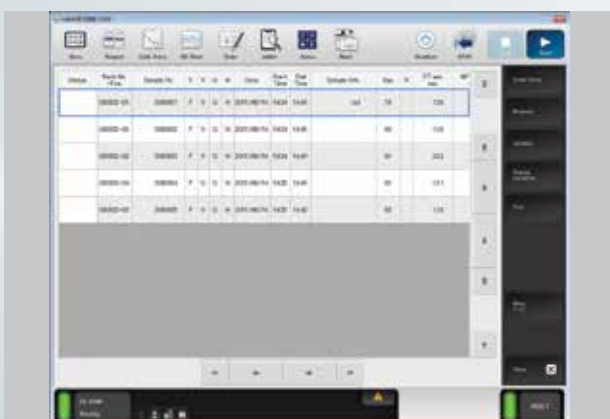
The CS-5100 system measures the level of Haemolysis (H), Icterus (I), and Lipemia (L) in the sample with an HIL detector at three wavelengths, 405, 575, 660nm.



- The level of HIL is displayed as a flag, based on user-defined criteria for each parameter, to ensure appropriate interpretation of results.

Primary Sample Volume Check

The CS-5100 system detects the level of liquid in a sample tube when aspirating the sample for the first time. It determines whether or not it contains an appropriate volume of blood according to the CLSI guideline of 9:1 ratio.

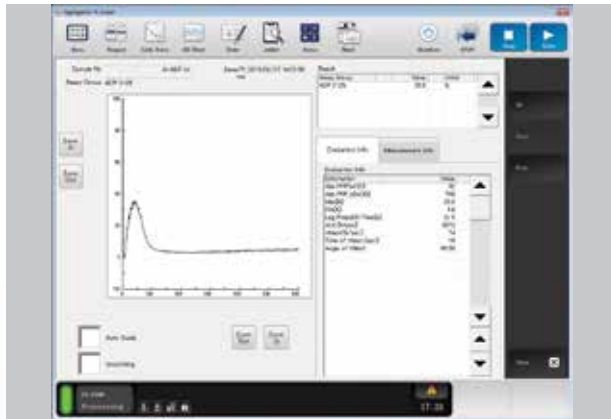


- Sample tubes with volumes outside the acceptable range are flagged, to avoid reporting of erroneous results.

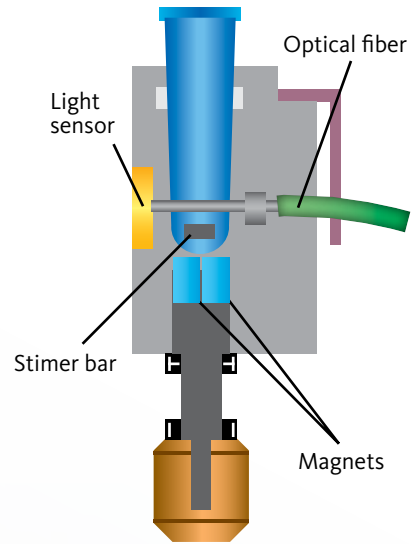
A NEW STANDARD IN HAEMOSTASIS TESTING

Automated Platelet Aggregation Assays

Provide assessment of platelet-based ristocetin cofactor activity (vWF:RCo) and platelet aggregation to ADP, epinephrine, collagen, arachidonic acid and ristocetin².



Analysis result with aggregation tracing and evaluation parameters



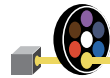
8 channels for platelet aggregometry method

Automated FXIII Activity Assay

Measure FXIII activity using the unique wavelength, 340nm.

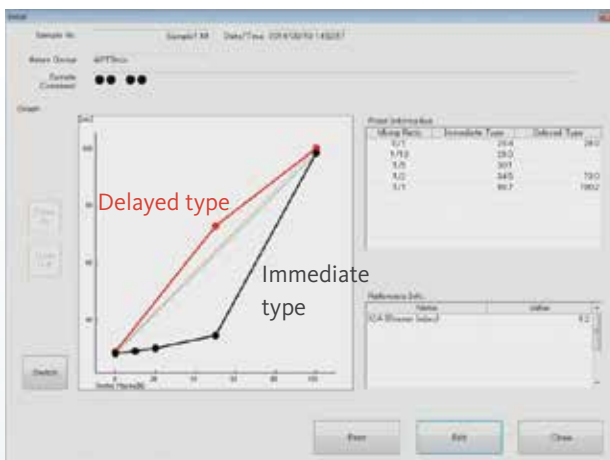


Multi-wavelength detection system



A NEW STANDARD IN HAEMOSTASIS TESTING

Inhibitor Testing with Cross-mixing Test



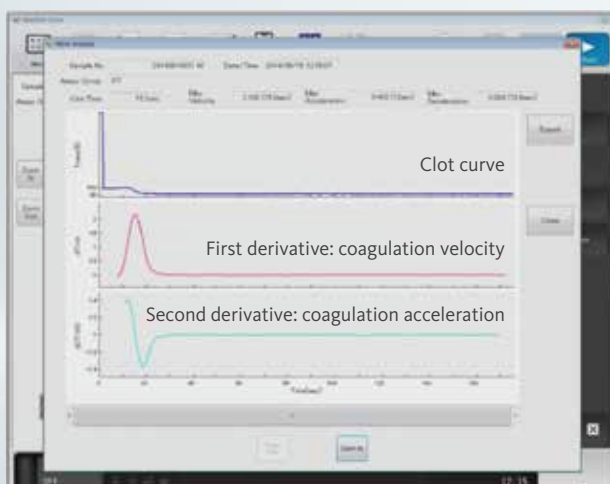
ICA (Rosner Index) = Index of circulating anticoagulant
 $ICA = (b-c) / a \times 100$
 a = Coagulation time of 100% patient serum
 b = Coagulation time of 50% patient serum
 c = Coagulation time of normal serum

Simplify cumbersome procedures

- Automatic dilution
- Graph creation
- Index calculation
- Overlay of immediate and delayed type of graphs

Cross-mixing analysis display

Clot waveform analysis (for research)



Potential clinical utility for evaluating coagulation function in various bleeding disorders, especially Haemophilia A, B, and monitoring bypass therapy⁴.

Wave analysis screen

References

1. Lippi G, Salvagno GL, Montagnana M, Lima-Oliveira G, Guidi GC, Favaloro EJ. Quality standards for sample collection in coagulation testing. *Semin Thromb Hemost.* 2012; 38:565–75.
2. Lawrie AS, Kobayashi K, Lane PJ, Mackie IJ, Machin SJ. The automation of routine light transmission platelet aggregation. *Int J Lab Hematol.* 2014; 36(4):431-8.
3. Lawrie AS, Green L, Mackie IJ, Liesner R, Machin SJ, Peyvandi F. Factor XIII– an under diagnosed deficiency– are we using the right assays? *J Thromb Hemost.* 2010; 8: 2478–82.
4. Shima M, Thachil J, Nair SC, Srivastava A. Towards standardization of clot waveform analysis and recommendations for its clinical applications. *J Thromb Hemost.* 2013; 11:1417-20.

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