Liquichek Serum Indices

Monitor instrument response to detect pre-analytical HIL specimen interferences

BIO-RAD

Monitor the Ability of an Instrument to Detect Pre-Analytical Interferences

Hemolysis, Icterus and Lipemia (HIL) are the most commonly tested interferences that affect the integrity of patient samples in the clinical laboratory.[1, 2] Depending on the type and the degree of interferences, it may impact patient results when run with a colorimetric assay. Fortunately, most major chemistry platforms include an automated HIL detection feature that employs spectrophotometric detection to measure the level of common interferences. However, in lieu of automated detection, some laboratorians may visually inspect samples. In both scenarios, the level of interference is translated as indices (Hemolysis, Icterus and Lipemia index) according to Clinical and Laboratory Standards Institute (CLSI) Standard C56-A.

Liquichek Serum Indices is intended for use as part of laboratory practice to monitor the instrument response to detect Hemolyzed, Icteris or Lipemic (HIL) samples.

Similar to patient samples with human sourced material

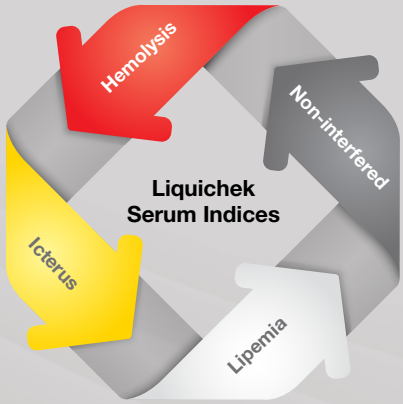
Liquichek Serum Indices is prepared from human sourced material and is designed to monitor an instrument's response in detecting HIL specimens. This helps improve detection of pre-analytical errors and adds confidence to instrument performance.

Reduce human errors by eliminating manual inspections

Manual HIL interference detection involves subjective visual assessment from a trained laboratory technician that may result in longer turnaround times, errors or repeat testing. Monitoring the instrument response in HIL detection with Liquichek Serum Indices may help reduce hands-on time and ensure reliable results, enabling laboratory technicians to focus on other important tasks.

Compare instrument responses among peer groups with the Unity Interlaboratory Program

An interlaboratory program can offer early awareness of shifts and trends to help avoid costly test repeats and unnecessary troubleshooting. Liquichek Serum Indices is integrated into the Unity Interlaboratory Program allowing access to instrument performance over time, peer group comparisons and easy-to-read reports.



Regulators are taking note:
ISO 15189:2012 includes expanded pre-examination procedures, and the IFCC is recommending standardized "Quality Indicators" in an effort to reduce the volume of pre-analytical errors.*[1]

Liquichek Serum Indices is a product that monitors instrument's response to detect HIL specimen interferences.

1. Green, S. F. *The cost of poor blood specimen quality and errors in preanlytical processes.* Clin BioChem. 2013;46:1175-9.
2. Salvagno, G., Lippi, G., Bassi, A., Poli, G., Guidi, G. *Prevalence and type of pre-analytical problems for inpatient samples in coagulation laboratory.* J Eval Clin Pract 2008;14:351–3.

Liquichek Serum Indices

Liquichek Serum Indices monitors the instrument response to detect and flag HIL interference in a sample. Liquichek Serum Indices consists of three independent interferents (Hemolysis, Icterus, and Lipemia) and one non-interfered serum sample. The Hemolysis, Icterus, and Lipemia levels initiate instrument response based on increased hemoglobin, bilirubin, and lipoproteins respectively. The Non-interfered level is a human-based serum and is similar to a patient specimen. This product is unassayed, with target values and reference tables provided for convenience.[3] The reference tables include both quantitative indexes and qualitative interpretations compatible with major chemistry instrument platforms.

- Prepared from human source material
- 2 year shelf life at -20ºC to -70ºC
- 14 day open-vial stability at 2-8ºC
- 14 day closed-vial stability at 2-8ºC
- 28 day frozen aliquot at -20ºC to -70ºC

Indices

Hemolysis
Icterus
Lipemia
Non-interfered

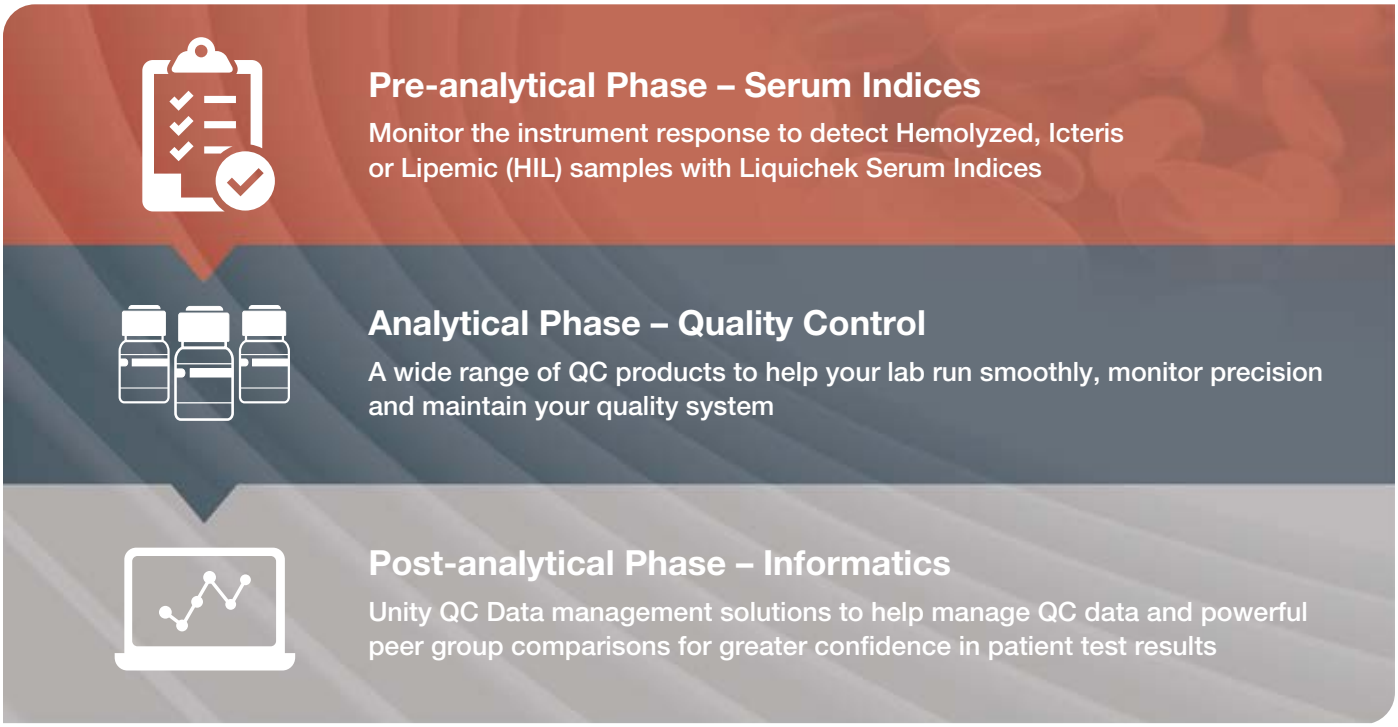
Assay Sensitivity to HIL Interferences

Interfering substances that remain undetected during pre-analytic inspection may impact the quality of results in the analytic testing cycle. The potentially negative consequences of inaccurate results must be prevented wherever possible. Some common assays with known sensitivity to HIL interferences are listed in the table below.

Hemolysis	Icterus	Lipemia
Amylase (AMY)	Amylase (AMY)	Aspartate Aminotransferase (AST)
Aspartate Aminotransferase (AST)	Creatinine (SC)	Direct Bilirubin (DBI)
Magnesium (MG)	Digoxin	Magnesium (MG)
Iron (FE)	Iron (FE)	Iron (FE)
Lactate Dehydrogenase (LDH)	γ-Glutamyl Transferase (GGT)	Lactate Dehydrogenase (LDH)
Direct Bilirubin (DBI)	Triglycerides (TG)	Potassium (K)
Potassium (K)	Potassium/Sodium (K/Na)	Sodium (Na)

3. Reference tables based on values in CLSI 56-A. Clinical and Laboratory Standards Institute (CLSI), Approved Guideline–First Edition, CLSI document C56-A (ISBN 1-56238-799-5), Clinical and Laboratory Standards Institute, *Hemolysis, Icterus, and Lipemia/Turbidity Indices as Indicators of Interference in Clinical Laboratory Analysis*, 2012.

Bio-Rad offers a comprehensive portfolio of products to cover all phases of clinical chemistry testing and data management



You can count on our consistent product quality to help assure reliability of patient results, along with expert technical support and customer educational programs.

Ordering Information

Cat #	Description	Cat #	Description
12012693	Hemolysis . . . . . 6 x 4 mL	12012697	Hemolysis MiniPak . . . . . 1 x 4 mL
12012694	Icterus . . . . . 6 x 4 mL	12012698	Icterus MiniPak . . . . . 1 x 4 mL
12012695	Lipemia . . . . . 6 x 4 mL	12012699	Lipemia MiniPak . . . . . 1 x 4 mL
12012696	Non-interfered . . . . . 6 x 4 mL	12012700	Non-interfered MiniPak . . . . . 1 x 4 mL

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QCNet.com/datamanagement

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