

Improve Your Process and Help Deliver Better Patient Care.

Serum Indices

SERUM INDICES

Technical Information

Introduction

If your laboratory struggles to interpret results from samples that contain hemolysis, icterus or lipemia, your SYNCHRON LX®, LX® PRO or CX® PRO has a built-in solution. Just enable the serum indices feature. If you're already using a diluent 1 buffer cartridge for your urine chemistries and immunoproteins, you have everything you need.

The instrument will:

- Automatically inspect the integrity of each sample
- Offer a numeric value for the relative concentration of each of the three substances

Enabling the Serum Indices features helps operators become more efficient – it removes the need for visual, subjective interpretation of the level of hemolysis, icterus or lipemia. Your lab can standardize on a streamlined process for routine sample tubes.

Intended Use

The serum index function is intended for the semi-quantitative determination of sample condition in terms of icterus, hemolysis and lipemia in serum or plasma. Serum index is intended to indicate the condition of a test sample.

Diluent 1 buffer is used to measure the serum indices by a spectrophotometric method.

When Serum Indices are enabled, the instrument withdraws a small amount of sample (14 µL) and injects it in a cuvette containing 200 microliters of Diluent 1 buffer. The system monitors the absorbance at 340, 410, 470, 600 and 670 nanometers and solves a set of equations to compute each index. The response is directly proportional to the sample condition in terms of icterus (bilirubin), hemolysis (hemoglobin) and lipemia.

Once the analysis is completed, a numeric value, or index, for the relative concentration is printed or sent to the DataLink/Host.

The technologist who validates the results can decide, based on the index value, how that value would effect a particular chemistry and append a comment to the results being delivered to the physician.

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Bilirubin Index Interferences

The following substances were tested for interference with the bilirubin index:

Table 1.0

Substances	Source	Level Tested	Observed Effect
Hemoglobin	RBC Hemolysate	500 mg/dL	NSI*
Lipemia	Intralipid**	400 mg/dL	NSI

Hemoglobin Index Interferences

The following substances were tested for interferences with the hemoglobin index:

Table 2.0

Substances	Source	Level Tested	Observed Effect
Bilirubin	Human	30 mg/dL	NSI*
Lipemia	Intralipid**	400 mg/dL	NSI

Lipemia Index Interferences

The following substances were tested for interference with the lipemia index:

Table 3.0

Substances	Source	Level Tested	Observed Effect
Bilirubin	Human	30 mg/dL	NSI*
Hemoglobin	RBC Hemolysate	500 mg/dL	NSI

* NSI = No Significant Interference (within ± 1 unit).

** Intralipid is a registered trademark of KabiVitrum, Inc.

Samples at a Lipemia Index Level of 9 and above should be ultracentrifuged and the analysis performed on the infranate. The high percentage of inert lipid particles may cause inaccurate volumetric aspiration and delivery.



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