



# IRON B CROMAZUROL

## Colorimetric Determination of iron in serum

### TEST SUMMARY

Iron reacts with Cromazurol B forming at room temperature a coloured compound, which colour intensity is proportional to the iron concentration present in the sample. The method is direct, very sensitive and simply : a single Reagent is used and samples blank are not required. Sample volume is reduced (50-100 µl) so that it can be used in pediatrics. It is easily applicable to the automatic instruments.

### SAMPLE

Serum.  
Stability: 3 days at 2-8°C.

### REAGENTS

Sole Reagent: Acetate buffer 0.2 mol/l pH 4.7, CTMA bromide 0,7 mmol/l; cromazurol B 2 mmol/l.

Standard: Ion ferrico 200 µg/dl; stabilizers and preservatives.

### MATERIAL REQUIRED BUT NOT SUPPLIED

Normal laboratory equipment. Spectrophotometer UV/VIS with thermostatisation. Automatic Micropipette. Cuvette in optical glass or monouse in optical polystyrene. Distilled water.

### PRECAUTIONS

Reagent may contain not reactive and conservative components. It is opportune to avoid contacts with the skin and do not swallow. Perform the test according to the general "Good Laboratory Practice" (GLP) guidelines.

### REAGENTS PREPARATION

Reagents are ready to use and stable until expiration date on label, stored at room temperature.

### PROCEDURE

Kind of analysis: End Point  
Reading time: 10 minutes  
Wavelength: 630 nm (620-640)  
Temperature: R.T.  
Colour stability: 60 minutes (avoiding strong light sources)  
Lightpath: 1 cm  
Zero: Blank Reagent

Pipette in clean cuvettes:

REAGENTS	BLANK	STANDARD	SAMPLE
Distilled water	100 µl	--	--
Standard	--	100 µl	--
Sample	--	--	100 µl
Sole Reagent	2.5 ml	2.5 ml	2.5 ml

Mix and wait for 10 minutes, read the absorbances against Blank at 630 nm.

### CALCULATION

$$\text{Ferro } \mu\text{g/dl} = \frac{A_{\text{(sample)}}}{A_{\text{(standard)}}} \times 200$$

### EXPETED VALUES

Men	59 - 158 µg/dl
Women	37 - 145 µg/dl

Every laboratory should establish own reference intervals in accordance with own population.

### NOTES

- Since the determination of low values in clinical chemistry is particularly significant, is necessary have a clean reagent blank. Sources of error are mainly due to the use of distilled water contaminated with iron or due to contaminated cuvettes, specially in automatic flow cells. Wash the cuvette with the Reagent until the cromogen absorbance keeps stable, and be sure that the blank absorbance is 0,005 - 0,020 less than pure cromogen. Eventual contaminations of the Reagent become evident in case if the cromogen absorbance against water is exceed 0,300 at 630 nm.
- The reading must be mandatory taken within the range 620-640 nm. In case if instruments with above needed range are not available, the analysis can be done by using Iron Nitropaps kit (cod. CC01500).
- If the results are incompatible with clinical presentation, they have to be evaluated within a total clinical study.
- Only for IVD use.

### CALIBRATION/ QUALITY CONTROL

It is suggested to perform an internal quality control using control serum with known iron values.

### TEST PERFORMANCE

#### Precision

The analysis underline intra-assay CV and inter-assay  $\leq 3,5$  e  $5,5$ .

The correlation coefficient obtained from a comparison with a reference method, has showed a good accuracy ( $r > 0.95$ ).

#### Sensibility/limit of detenction

The method is able to discriminate up to 6 µg/dl.

#### Linearità

The method is linear up to 500 µg/dl

#### Interferences

The interference of other serum compound is negligible (metallic ions, bilirubin, glucose uric acid).

#### WASTE DISPOSAL

Product is intended for professional laboratories. Waste products must be handled as per relevant security cards and local regulations.

#### PACKAGING

#### CODE CC01570 (240 TESTS)

Sole Reagent 6 x 100 ml (liquid)  
Standard 1 x 5 ml (liquid)

### REFERENCES

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Tobacco A., et al; Chim. Clin. Acta 114, 287 (1981).  
Teruzzi A., Torelli G.; 17° Meeting S.I.Bio.C., Bich. Clin. 9, 1080, Communication (1985).

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### SYMBOLS

	Only for IVD use
	Lot of manufacturing
	Code number
	Storage temperature interval
	Expiration date
	Warning, read enclosed documents
	Read the directions
	Biological risk

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