

Liquid Reagents – ready to use

HEMOGLOBIN TOTAL

CYANMETHEMOGLOBIN

Single Reagent

Diagnostic Reagent for quantitative in vitro determination of Hemoglobin in whole blood on photometric systems.

REF

Cont.

Y04701 5 x 100 ml Single Reagent

Additionally offered:

Y04705SV 1 x 2 ml Hemoglobin Calibrator
Y04706 6 x 2 ml Hemoglobin Control Set

TEST PARAMETERS

Method: Colorimetric, Endpoint, Increasing Reaction, Cyanmethemoglobin
Wavelength: 540 nm
Temperature: Room temperature
Sample: Whole blood with EDTA, oxalate, citrate or heparin as anticoagulants
Linearity: up to 20 g/dl

REAGENT COMPOSITION

COMPONENTS	CONCENTRATION
Potassium ferricyanide	0.6 mmol/L
Potassium cyanide	0.7 mmol/L
Buffers, stabilizers	

REAGENT PREPARATION

The reagent provided is ready for use.

REAGENT STABILITY AND STORAGE

Conditions: protect from light
close immediately after use
Storage: at 15 - 25°C
Stability: up to the expiration date

Do not use reagent if it has become a different color than yellow or if it has become cloudy.

SAMPLE STABILITY AND STORAGE

Stability: 15 - 25°C 1 week
Discard contaminated specimens.

INTERFERING SUBSTANCES

1. Substances that cause turbidity will falsely elevate the hemoglobin value. These include lipids, abnormal plasma proteins (macroglobulinemia) or erythrocyte stroma.
2. A review by young et al reveals the numerous drugs that exert an in vitro effect to decrease blood hemoglobin values.

MANUAL TEST PROCEDURE

Pipette into test tubes	Blank	Calibrator	Sample
Reagent	2000 µl	2000 µl	2000 µl
Sample	-	-	10 µl
Std./Cal.	-	10 µl	-

Mix, incubate for 3 min. at room temperature and read absorbance against reagent blank within 1 hour.

CALCULATION (light path 1 cm)

$$\text{Hemoglob. (g/dl)} = \frac{\Delta A \text{ Sample}}{\Delta A \text{ Calibr.}} \times \text{Conc. of Cal. (g/dl)}$$

REFERENCE RANGE* (g/dl)

Adult Males:	13.0 – 18.0
Adult Females:	11.0 – 16.0
Children:	10.0 – 14.0
Newborns:	14.0 – 23.0

* It is recommended that each laboratory establishes its own normal range.

Factors such as age, race, exercise, season and altitude are reported to influence the values of normal ranges.

TEST PRINCIPLE

In an alkaline medium, potassium ferricyanide oxidizes hemoglobin and its derivatives to methemoglobin. Subsequent reaction with potassium cyanide produces the more stable cyanmethemoglobin which has a maximum absorbance at 540 nm. Color intensity is proportional to total hemoglobin concentration. This procedure measures hemoglobin and its derivatives except sulfhemoglobin.

PERFORMANCE CHARACTERISTICS

LINEARITY

The assay is linear to 20.0 g/dl.
Samples with hemoglobin concentrations higher than 20.0 g/dl must be re-run using one-half the sample volume.
Multiply final results by two.

PRECISION (at 25°C)

Assays (n=25) of haemoglobin control material yielded a coefficient of variation of 1.1% at 8.9 g/dl and 1.4% at 12.6 g/dl.

METHOD COMPARISON

Studies conducted against a similar procedure yielded a coefficient of correlation of 0.992 with a regression equation of $y = 0.985x + 0.098$ on samples with values from 8.7 to 18.2 g/dl (n=27).

QUALITY CONTROL

All control sera with hemoglobin values determined by this method can be used.

We recommend:

REF

Cont.

Y04706 6 x 2 ml **Hemoglobin Control Set**

CALIBRATION

The assay requires the use of a hemoglobin calibrator.

We recommend:

REF

Cont.

Y04705SV 1 x 2 ml **Hemoglobin Calibrator**

AUTOMATION

Special adaptations for automated analyzers can be made on request.

WARNINGS AND PRECAUTIONS

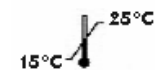
1. Take the necessary precautions for the use of laboratory reagents.
2. The reagents contains cyanide. **Poison – may be fatal if swallowed. Do not pipette by mouth.**
3. Do not mix with acids. Discard by flushing with large volumes of water.

WASTE MANAGEMENT

Please refer to local legal requirements.

REFERENCES

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