Hemoglobin - SLS

**INTENDED USE:** Quantitative in vitro determination of Hemoglobin in whole blood on photometric systems.

**ORDERING INFORMATION:**
- Pack Size: 1 X 1000 ml
- Cat No.: HBLS 1000

**CLINICAL SIGNIFICANCE:** Hemoglobin conveys oxygen to soft tissues. It also regulates oxygen levels in the body and helps in the transport of other nutrients and oxygen to the tissues. Hemoglobin is composed of four proteins, alpha, beta, gamma, and delta, which are used in the body to transport oxygen. It also helps in the transport of carbon dioxide and other wastes from the tissues to the lungs.

**METHOD:**
- Calibration: Sodium Lauryl Sulphate Method
- Sample treatment: Fresh whole blood collected in EDTA
- Mode: End Point
- Optical path: 1 cm
- Wavelength: Hg 546 nm

**ASSESSMENT OF PERFORMANCE CHARACTERISTICS:**
- The test has been developed to determine Hemoglobin concentrations within a measured range. The precision and accuracy of the test have been validated.

**STORAGE INSTRUCTIONS AND REAGENT STABILITY:**
- Store at 20°C to 25°C, protected from light and contamination is avoided.
- The reagents are stable up to the end of the indicated date of expiry on the vial label, if stored at room temperature.

**MEASUREMENTS ON COLORIMETERS:**
- If plotting of a calibration curve is desired, then pipette into five clean dry test tubes:
- Tube No. 1: Blank
- Tube No. 2: Add 50 µl Sample
- Tube No. 3: Add 10 µl Sample
- Tube No. 4: Add 10 µl Sample
- Tube No. 5: Add 10 µl Sample

**CALCULATING A CALIBRATION CURVE:**
- Mix well and measure the absorbance of the tube Nos. 2, 3, 4 and 5 against tube No. 1.
- If a straight line is obtained, then calculate the Correlation Coefficient.
- The Correlation Coefficient is a measure of the strength and direction of the linear relationship between two variables. It is a number between -1 and 1, where 1 indicates a perfect positive linear relationship, 0 indicates no linear relationship, and -1 indicates a perfect negative linear relationship.

**CLINICAL SIGNIFICANCE:**
- Hemoglobin levels help in determining the oxygen-carrying capacity of blood.
- Anemia: Decreased levels of Hemoglobin are found in anemia, which can be caused by several factors such as iron deficiency, folic acid deficiency, structural abnormalities, and genetic disorders.
- Polycythemia: Increased levels of Hemoglobin are found in polycythemia, which can be caused by several factors such as chronic anemia, cancer, and other chronic diseases.

**INSTRUMENT APPLICATION:**
- **METHOD:**
  - **Name:** HB
  - **Mod:** END-P
  - **Pri:** 546 , Sec: 0
  - **Temp:** 37°C
  - **Vol:** 500 µl
  - **Wavelength:** 546 nm
  - **Normal HI:** 16.3
  - **Normal LO:** 12
  - **QCN:** *
  - **QCAH:** *
  - **Reagent Blank:** *
  - **NOTE:** * indicates user definable parameter.
  - **NA:** Not Applicable

**PARAMETERS FOR INSTRUMENT SETTING:**
- **TECH:** HEMOGLOBIN-SLS
- **Reagent:** End Point
- **Wavelength:** 546 nm
- **Temperature:** 37°C
- **Zero Setting:** Reagent Blank
- **Factor:** 14.8
- **Units:** g/dl
- **Sample Volume:** 10 µl
- **Reagent Volume:** 1000 µl
- **Incubation Time:** 5 minutes
- **Reference Range:** 12 to 16.3
- **Log:** 5
- **Read:** NA
- **Bk:** Y, QC:** Y, Norm:** Y
- **Std:** N
- **Factor:** 14.8
- **Normal HI:** 16.3
- **Normal LO:** 12
- **QCN:** *
- **QCAH:** *
- **Reagent Blank:** *
- **NOTE:** * indicates user definable parameter.
- **NA:** Not Applicable

**SYMBOLS USED ON THE LABELS:**
- **In vitro diagnostic test kit, for professional use only**

**MANUFACTURED AND MARKETED BY:**
- **ROBONIK (INDIA) LTD.,**
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- **Fax. No.: +91 (22) 67829701**
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- **Website:** www.robonik.in

**LITERATURE:**
- 4. Data on file ROBONIK (INDIA) LTD.

**MEASUREMENTS ON COLORIMETERS:**
- On colorimeters where the exact wavelength of 540 nm (Hg 546 nm) is not available, the absorbances have to be taken on a yellow green filter. Hemoglobin Standard available separately to be used. The absorbance of Standard is taken against distilled water.

**Pipette:**
- Pipette into clean dry test tubes labeled as Blank and Sample.

**CALCULATION:**
- For the calibration curve, the absorbance of each tube is plotted against the concentration of Hemoglobin. The absorbance values are plotted on the Y-axis, and the concentration values are plotted on the X-axis. A straight line is obtained, and the Correlation Coefficient is calculated.

**REFERENCE RANGE:**
- Newborns: 11 to 14 g/dl
- Infants: 11 to 14 g/dl
- Male: 13.9 to 16.3 g/dl
- Female: 12.0 to 15.0 g/dl

**CONVERSION FACTOR:**
- Hemoglobin in g/dl = (Abs of Sample – Abs of Blank) X Factor

**ASSAY PROCEDURE:**
- Add 5 µl of Hemoglobin Standard available separately to be used. The absorbance of Standard is taken against distilled water.

**MEASUREMENTS:**
- Absorbance readings are taken on a yellow green filter.

**REFERENCE RANGE:**
- Newborns: 11 to 14 g/dl
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