CBC Hemavet Reservations

CMMC Core staff performs analysis: $27 per sample
Trained User performs analysis: $22.00 per sample AND initial training $65 per hour, plan on 15 minutes for training. Massey Cancer member discount applies.
To prepare the instrument for use we require a minimum of 48 hrs notice by email from interested party to emails below:
vkraskauskie@vcu.edu OR pjgigliotti@vcu.edu
In addition, Trained Users must sign up online using FORCE at link below:
https://rams.research.vcu.edu/rams/

CORE hours are 8:30am-5pm M-F. Doors are closed at 5pm, please take this into account as you plan your day...
We recommend you come to the lab to use Hemavet or to drop off samples no later than 4:00 pm.
Please bring valid Index Code, gloves and thumb drive (if you want an electronic copy of your results). Instrument will automatically print hard copy of each run.
MASKS ARE REQUIRED.

Hemavet Sample Requirements

No Heparin.
K3EDTA is recommended anticoagulant
(we do have the K3EDTA tubes for collection available for purchase)

Basic rule of thumb for blood draw is that you must draw a minimum of 50% of the total tube volume. There is some wiggle room, of course.
If you overfill, it clots.
If you underfill, anticoagulation saturation. The cells crenate and the diff is compromised.

Samples MUST be mixed immediately upon blood draw in order to prevent clots, gentle inversion 10 times minimum!
Before mixing, REMOVE/Discard top cap with capillary tube. Take new cap from bottom of collection tube and secure it on to the top of tube. You can now gently mix.
No blood clots, sample must be free of debris

Please DO NOT ICE THE SAMPLES.
Whole blood samples for platelet and differential counts must be run at room temperature and within 4 hrs after sample collection for optimum results! The sooner the better.

Instrument uses 20ul.
No special container required for sampling.
For example, you can bring a 50ul aliquot of your anticoagulated sample in a microfuge tube.
1. Collect blood with the assembled End-to-End 100 µl or 200µl capillary. For collection, best results are achieved if the Microvette® is held in horizontal or slightly inclined position. During blood collection, hold the capillary 3 to 5 mm away from the puncture site.

2. Collection is complete when the End-to-End capillary is entirely filled with blood.

3. Hold the tube upright to allow the blood to flow from the capillary into the Microvette®.

4. Turn the cap to remove and discard the preassembled capillary as one unit.

5. Remove the cap from the base and seal the Microvette® (click 'position).

6. Mix sample thoroughly by inverting the Microvette®.

All patient blood specimens should be treated with standard precautions. Wear gloves!
Known Interfering Substances.
The known interfering substances regarding the parameters of the HEMAVET Series are as follows:

**WBC**
- Certain unusual RBC abnormalities that resist lysing, nucleated RBC, clumped platelets, fragmented WBC, any unlysed particle greater than 35 fL may cause flagging conditions. Heparin may cause the WBC differentials to be inaccurate.

**RBC**
- Very high WBC count, high concentration of very large platelets, agglutinins.

**Hb**
- Very high WBC count, severe lipemia, heparin, certain unusual RBC abnormalities that resist lysing.

**MCV**
- Very high WBC count, high concentration of very large platelets, agglutinins.

**PLT**
- Very small erythrocytes or leukocytes, or cell fragments may cause flagging conditions in some cases. The System provides accurate PLT counts in the presence of most hemolytic disorders. Chemotherapy may affect certain samples.

**HCT, MCH, MCHC, NE, LY, EO, MO, BA, NRBC**

Sample Flags

6.1.4 Flagging Criteria. Certain conditions and cell size distributions trigger the following flags to alert the operator that abnormal conditions may exist.

* The following suspect flags may appear adjacent to the leukocyte parameters:

- * Indicates that the mean of the WBC cytogram has shifted abnormally due to cell fragility.
  - Examine blood smear.

- *P1 Indicates excessive debris or cellular fragments. Examine blood smear.
  - P1 Indicates that debris due to incomplete lysis of RBCs and/or platelet clumps are present.

- W3 Indicates that neutrophils have collapsed in vitro due to anemia or a delay in processing, or that immature granulocytes are present. Review the blood smear to evaluate RBC and WBC morphology and differential.
  - W5 Indicates that very large particles or many small platelet clumps have been detected.

- * Indicates that RDW is beyond instrument linearity limits (8% - 55%).

- R1 Indicates that platelet clumps, microcytic RBCs or RBCs that have collapsed due to autohemolysis have been detected. Review the blood smear to determine cause.
  - R1 and P2 flags appearing together indicates difficulty in separating platelet and RBC populations because of small RBCs and/or platelet clumps. Review blood smear to
determine cause.

R5 Indicates the presence of an unusual population in the RBC cytogram.

R7 Indicates that very large cells relative to RBCs have been detected. WBCs appearing on RBC cytogram in cases of marked leukocytosis often trigger this flag. Review blood smear to determine cause.

RM Indicates that multiple region alarms have been triggered.

* Indicates that the Hb lamp is aging and will need to be replaced soon. Hb results are still valid.

*B Indicates that the Hb lamp is failing. Hb results are blanked out. Lamp needs to be replaced.

P1 Indicates that MPV is below instrument linearity limit (2.0 fL).

P2 Indicates that very large platelets or platelet clumps are present. Examine blood smear to determine cause.

*P2 Indicates that MPV is above instrument linearity limit (30.0).

The following suspect flags may appear adjacent to the thrombocyte parameters:

L Indicates that the flagged number or percentage is below the preset normal range for that species.

H Indicates that the flagged number or percentage is above the preset normal range for that species.

If a particular leukocyte, erythrocyte or thrombocyte parameter is above the instrument's linearity limit, the word "HIGH" will appear in place of a numeric result.

If an error occurs in the calculation of a particular leukocyte, erythrocyte or thrombocyte parameter, dashes (-----) will appear in place of the numeric result.