



AUTOMATED DIFFERENTIAL WORKSHEET 2010

The samples have been tested and found to be homogeneous and stable for the purpose of these exercises. These whole blood reagents may contain any or all of the following: stabilised human or mammalian red blood cells, human, mammalian or simulated white blood cells and a platelet component in a preservative medium.

MARCH	Cycle 10 Run 1	AD1	AD10-1-03a	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
			AD10-1-03b	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
		AD2	AD10-2-03a	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
			AD10-2-03b	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
		AD3	AD10-3-03a	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
			AD10-3-03b	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
		AD4	AD10-4-03a	WCC, Neut/Gran, Lymp, Mono, Eos, Baso, LUC
			AD10-4-03b	WCC, Neut/Gran, Lymp, Mono, Eos, Baso, LUC
		AD5	AD10-5-03a	WCC, Neut/Gran, Lymp, Mixed
			AD10-5-03b	WCC, Neut/Gran, Lymp, Mixed
		AD6	AD10-6-03a	WCC, Neut/Gran, Lymp, Mono/Mid
			AD10-6-03b	WCC, Neut/Gran, Lymp, Mono/Mid
		AD7	AD10-7-03a	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
			AD10-7-03b	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
		AD8	AD10-8-03a	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
			AD10-8-03b	WCC, Neut/Gran, Lymp, Mono, Eos, Baso

SEPTEMBER	Cycle 10 Run 2	AD1	AD10-1-10a	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
			AD10-1-10b	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
		AD2	AD10-2-10a	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
			AD10-2-10b	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
		AD3	AD10-3-10a	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
			AD10-3-10b	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
		AD4	AD10-4-10a	WCC, Neut/Gran, Lymp, Mono, Eos, Baso, LUC
			AD10-4-10b	WCC, Neut/Gran, Lymp, Mono, Eos, Baso, LUC
		AD5	AD10-5-10a	WCC, Neut/Gran, Lymp, Mixed
			AD10-5-10b	WCC, Neut/Gran, Lymp, Mixed
		AD6	AD10-6-10a	WCC, Neut/Gran, Lymp, Mono/Mid
			AD10-6-10b	WCC, Neut/Gran, Lymp, Mono/Mid
		AD7	AD10-7-10a	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
			AD10-7-10b	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
		AD8	AD10-8-10a	WCC, Neut/Gran, Lymp, Mono, Eos, Baso
			AD10-8-10b	WCC, Neut/Gran, Lymp, Mono, Eos, Baso

Module	Instrument Group
AD1	SYSMEX XT1800i, XT2000i, XE2100/5000, XS1000i, XS800i
AD2	ABBOTT Cell-Dyn 3000, 3200/Ruby, 3500, 3700, 4000/Sapphire
AD3	BECKMAN COULTER ACT5Diff, ABX Pentra 60 C, Pentra DX 120
AD4	SIEMENS ADVIA 120/2120, TECHNICON H Systems
AD5	SYSMEX K-1000, KX-21, K-4500, poch-100
AD6	ABBOTT Cell-Dyn 1200,1300, 1400, 1600, 1700, 1800 BECKMAN COULTER ACT/ACT Diff, T Series, JT Series, JS, JR, ST, ONYX, MD Series. ABX MICROS 60, Spirit (MINOS), ABX ARGOS NIHON KOHDEN Celltac SIEMENS ADVIA 60, ADVIA 70
AD7	BECKMAN COULTER STKS, MAXM, HmX, GEN.S, LH 750/755/780, LH500
AD8	SYSMEX SE9500, SE9000, SF3000

GENERAL INFORMATION

SAMPLE	Volume Provided	Test	Interpretation	Units
AD10 - # -**a / b	2.0-4.5 ml	White Cell Count	Not Required	X 10 ⁹ /L
# = Module ** = Sample Number		Autodifferential Parameters as stated on Page 1	Not Required	Percentage (%)

ATTENTION! IT IS CRUCIAL THAT YOU READ THESE INSTRUCTIONS CAREFULLY AND PROCESS YOUR SAMPLES EXACTLY AS INSTRUCTED.

You should receive the samples which correspond to the Automated Differential module/modules in which you are enrolled. **Samples are instrument specific.**

Please check that your samples correspond to your instrumentation by referring to the table on Page 1 or the METHOD CLASSIFICATION BOOKLET available on the Haematology QAP website. If you have changed your instrumentation and you require a different automated differential material, **you must contact the HAEMATOLOGY QAP immediately.**

It is recommended that these samples be submitted through properly maintained and calibrated instruments.

The **INSTRUCTIONS FOR USE** are printed in these worksheets, as well as on the back of the result sheets included in your enrolment pack. Some modules have instructions that are instrument specific so if your laboratory is enrolled in more than one module please ensure you carefully read all instructions before proceeding. All MASTER RESULT SHEETS and INSTRUCTIONS FOR USE are available on the Haematology QAP website:

<http://www.rcpaqap.com.au/haematology/>

SAMPLE HANDLING AND PROCESSING INSTRUCTIONS

Modules AD2, AD4, AD5, AD6, and AD7: The manufacturer of the control material has advised that these samples must be handled exactly as described, otherwise incorrect results may be produced.

- Remove the vials of control from the refrigerator and warm to room temperature (18°C to 30°C) for 15 minutes before use.
- To mix (Do not mix mechanically).
 - Hold the vial horizontally between the palms of the hands and roll the vial back and forth for 20 to 30 seconds. Do not shake.
 - Mix by rapid inversion until all cells are resuspended.
 - Vials stored for an extended period of time may need extra mixing.
 - Gently invert the vial 8 to 10 times immediately before sampling.
 - Refer to the instrument manual for the system in use for analysing control material.
- After sampling, return to refrigeration for maximum open-vial stability. If run in the open mode, wipe the threads of both the vial and cap before replacing the cap and returning to refrigeration.

Module AD1: Instructions for the XT, XE and XS Series of the Sysmex 5-part differential instruments are included. This sample **MUST BE PROCESSED THROUGH THE QC MODE OF THE INSTRUMENT** otherwise incorrect results/"vote-outs" may occur.

XE SERIES

The specimens need to be run into one of the Manual E-Check QC files – for example Level 2 Manual. The results are then deleted from the QC files and printed from the Explorer screen. See Operators Manual Chapter 2, Section 3.3.1.

- Allow tubes to warm to Room Temperature for 15 mins before mixing.
- Press "QC" on the main screen
- Press "Exec QC" on the QC menu.
- Select one of the manual mode E-Check files – for example "Level 2 Manual". (Do not use one of the "Other" files).
- Press "Select".
- Mix the vial by end-to-end inversion until all red blood cells are completely resuspended. Gently invert the vial 8-10 times immediately before sampling.
- Aspirate sample.
- Press "Cancel" – Results do not have to be accepted.
- Repeat for the next tube.
- Go to "Explorer" and select the RCPA results.
- (You may change the ID of the QC specimens that you have just run from "QC-lot number" to an RCPA ID)
- Print the results
- Delete results from the QC file that have been accepted.

XT SERIES

The specimens need to be run into one of the Manual E-Check QC files – for example Level 2 Manual. The results are then printed from the Explorer screen. See Operators Manual Chapter 6, Section 3.1.

- Allow tubes to warm to Room Temperature for 15 mins before mixing.
- Go to "QC Analysis" on the main menu.
- (If "QC Analysis" is not visible on the main menu then go to "Controller" then "QC Analysis").
- Select a manual E-Check QC file – for example "Level 2 Manual". (Do not select one of the "Other files").
- Mix the vial by end-to-end inversion until all red blood cells are completely resuspended. Gently invert the vial 8-10 times immediately before sampling.
- Aspirate sample.
- Press "Cancel" – Results do not have to be accepted.
- Repeat for the next tube
- Go to "Explorer" and select the RCPA results.
- (You may change the ID of the QC specimens that you have just run from "QC-lot number" to an RCPA ID)
- Print the results.
- Delete any RCPA results from the QC file that have been accepted.

XS SERIES

The specimens need to be run into one of the Manual QC files – for example Level 2 Manual. The results are then printed from the Explorer screen. See Operators Manual Chapter 6, Section 3.1.

- Allow tubes to warm to Room Temperature for 15 minutes before mixing.
- Mix the vial by end-to-end inversion until all red blood cells are completely resuspended. Gently invert the vial 8-10 times immediately before sampling.
- Aspirate sample.
- Go to "QC Files".
- Select "Manual Mode" Icon.
- Select "Level 2 QC".
- Press "OK".
- Run RCPA samples in "Level 2".
- When the results fill the accept screen – press "Cancel".
- Go to the "Explorer" screen and print results.
- (Edit the ID if you need to).










Module AD3: Instructions for the AL, CP and OV models of the Beckman Coulter ACT 5 Diff, are included. ABX Pentra 60 C+ users must refer to their manual for instructions on analysing control materials. This sample **MUST BE PROCESSED THROUGH THE QC MODE OF THESE INSTRUMENTS** otherwise incorrect results/"vote-outs" may occur.

AD3 SAMPLE HANDLING INSTRUCTIONS

These instructions were obtained directly from the manufacturer of the control material.

1. Remove a vial of control from the refrigerator and warm to room temperature (18° to 30°C) for 15 minutes before use.
2. To mix, hold the vial between the palms of the hands. **Do not mix mechanically.**
 - Roll the vial back and forth for 20 to 30 seconds occasionally inverting the vial. Mix vigorously. **Do not shake.**
 - Continue to mix in this manner until all the cells are resuspended. Vials stored for an extended period of time may need extra mixing.
 - Gently invert the vials 8 to 10 times immediately before sampling.
3. Refer to the instrument manual for the system in use for analysing control materials. **AD3 must be run in the QC mode.**
4. After sampling, return to refrigeration for maximum open-vial stability. If run in the open mode, wipe the threads of both the vial and cap before replacing the cap and returning to refrigeration.

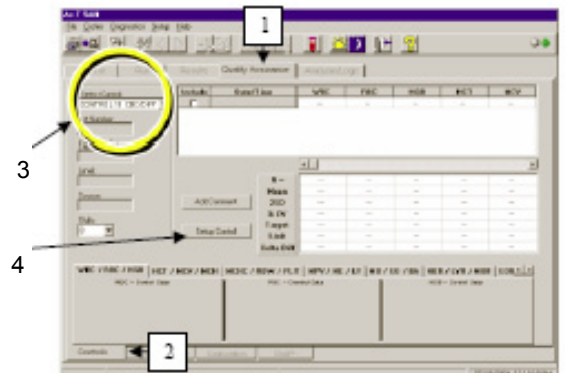
PROCEDURE FOR RUNNING RCPA QAP DIFFERENTIAL CONTROL SAMPLES ON THE BECKMAN COULTER ACT5DIFF™ AL ANALYSER

1. From the main menu screen click on 
2. Then click on 
3. If the Levey-Jennings graphs screen appears, click on  to open the QC data grid screen.
4. At the Control Name field, select a CBC/diff control file (from the drop down box) that is currently not used eg CONTROL 24. Note: only files 13 to 24 will provide differential results.
5. Click on . N.b. there is no need to enter targets or ranges.
6. Move your cursor to the Lot Number field. Enter "**RCPA.QAP**" as your lot number
7. Make sure the reserved box is ticked Reserved 
8. Move your cursor to the Expiration date field and select an expiry date (could be the closing date or a date well into the future) ____
9. Click on  to save the file setup.
10. Follow the instructions for handling and preparing your RCPA samples.
11. Run your "a" samples into this file in either manual or automatic mode using the "**RCPA.QAP**" reserved id.
12. Add the "a" sample id as a comment to the result via the graphics screen by clicking on the  icon and saving it with 
13. If Autoprint is not activated, manually print your result by clicking the  icon and following the prompts.
14. Run your "b" sample into this file also.
15. Add the "b" sample id as a comment to the result as above.
16. If Autoprint is not activated, manually print your result as above.

17. From your print out (or screen), you can now record your differential results (ie. Not absolute count) onto your survey results sheet including the high basophil percentage. You may save this file for future processing of RCPA differential samples from step 10 onwards. If so, you may need to adjust the expiration date next time you use the file.

**PROCEDURE FOR RUNNING RCPA QAP DIFFERENTIAL CONTROL SAMPLES ON THE
BECKMAN COULTER ACT5DIFF™ CP ANALYSER**

1. From the main screen, click on the **Quality Assurance** Tab.
2. Click the **Controls** tab at the bottom of the window.
3. At the Select Control field, select a CBC/diff control file (from the drop down box) that is currently not used eg CONTROL 24. Note: only files 13 to 24 will provide differential results.
4. Click on the **Setup Control** box.
5. Enter "RCPA-QAP" in the lot number field.
6. Press tab to move to the next field.
7. At the expiration date field, enter an expiry date for the control (could be the closing date or a date well in to the future).
8. Press tab to move to the next field.
9. At the Source field, select the source of the material as "Commercial" from the drop down box.
10. Press tab to move to the next field.



11. At the Level field, select the level "Normal".
12. *N.b. You do not need to enter any target values or ranges to now use this file.*
13. Click on the green tick icon to save and exit the setup screen.
14. Follow the instructions for handling and preparing your RCPA samples.
15. Sample your first sample (the "a" sample) into this file by staying in this screen.
16. When the result appears in the top row, click on that row to highlight it then click on the box..
17. Enter the "a" sample RCPA id into the comments field.
18. Sample your second sample (the "b" sample) also into this file.
19. When the result appears in the top row, click on that row to highlight it then click on the **Add Comment** box and enter the "b" sample id.
20. Click on your print icon (top left hand corner of the screen) and select "Print all rows" and the green check icon.
21. From your print out, you can now record your differential results (ie. Not absolute count) onto your survey results sheet including the high basophil percentage. You may save this file for future processing of RCPA differential samples from step 14 onwards. If so, you may need to adjust the expiration date next time you use the file.

Samples processed on the Act 5 Diff "OV" model must be processed as a PATIENT SAMPLE as there is no QC mode on this analyser.

Samples processed on the ABX Pentra 60C+ MUST be run through QC mode.

Module AD8: This sample **MUST BE PROCESSED THROUGH THE QC MODE OF THE INSTRUMENT** otherwise incorrect results/"vote-outs" may occur.

SE SERIES

The specimens need to be run using the "Manual (OPEN) Mode", into one of the QC files. See Operator's Manual Chapter 6, Section 11.3.

- Allow tubes to warm to Room Temperature for 15 mins before mixing.
- Press F4 to select "F4:QC".
- From the sub menu, select "2.Execute X/L-J".
- Select "1:File".
- Input the appropriate QC file number, for example one that you are not using (not files 13 – 15).
- Mix the vial by end-to-end inversion until all red blood cells are completely resuspended. Gently invert the vial 8-10 times immediately before sampling.
- Aspirate sample.
- Press "F3, QC Data".
- Mark appropriate data.
- Press F9 and print marked data using either GP or LP.
- Delete marked data as necessary.

SF SERIES

The specimens need to be run using the "Manual (OPEN) Mode", into one of the QC files. See Operator's Manual Chapter 3, Section 3.1.

- Allow tubes to warm to Room Temperature for 15 mins before mixing.
- Press "Next No." keypad in the top line of the LCD screen.
- Select an appropriate QC file (one that is not in use).
- Press "Enter".
- Mix the vial by end-to-end inversion until all red blood cells are completely resuspended. Gently invert the vial 8-10 times immediately before sampling.
- Aspirate sample.
- Go to Stored Data, List Display and Print the results in the normal manner.
- Delete results as appropriate.

INSTRUCTIONS FOR PARTICIPANTS WITH MULTIPLE INSTRUMENTS

If your laboratory has multiple instruments which are all using material from the same module the easiest method is to record instrument numbers in the same order as the Full Blood Count (FB) Program.

- Example:

FB Program Number	Instrument	AD Module	Instrument No. for that Module	AD Module Number
999.1	Sysmex XE	AD1	1	999.1
999.2	Sysmex XE	AD1	2	999.2
999.3	Sysmex XT	AD1	3	999.3

All instruments belong to Module AD1 so the results can be recorded as above which corresponds to the order of the instruments in the FB Program.

If your laboratory has multiple instruments which belong to different Automated Differential modules the instrument numbers for the Automated Differential will not correspond to the instrument numbers in the FB Program.

- Example:

FB Program Number	Instrument	AD Module	Instrument No. for that Module	AD Module Number
999.1	Sysmex XE	AD1	1	999.1
999.2	Sysmex XE	AD1	2	999.2
999.3	Sysmex K1000	AD5	1	999.1
999.4	Sysmex XT	AD1	3	999.3
999.5	LH750	AD7	1	999.1

This laboratory has multiple instruments which requires enrolment in 3 different Automated Differential modules – AD1, AD5 and AD7. Whilst in the FB Program these instruments are simply numbered 999.1 to 999.5 this is not possible in the Automated Differential Program.

Instruments in the same module are numbered sequentially but if you then change to another module the instrument number reverts back to xxx.1

If your laboratory has more than one instrument of the same model (eg in this case 2 Sysmex XE instruments) it is the participants responsibility to be consistent in the submission of results. For example Sysmex XE instrument 1 needs to remain the same instrument throughout the cycle for the statistics to be meaningful.

- **THE PERCENTAGE VALUE, NOT THE ABSOLUTE COUNT, MUST BE REPORTED.** For past surveys, courtesy calls were made to participants to resubmit correctly expressed results. No more calls will be made, and results expressed incorrectly will not be accepted.



ADDITIONAL FACTORS WORKSHEET 2010

The samples have been tested and found to be homogeneous and stable for the purpose of these exercises. All samples are lyophilised plasma and will require reconstitution with distilled water. Please see over for reconstitution information.

Note: This program is run in conjunction with 4 of the 8 Haemostasis surveys throughout the year. All testing for the program is to be performed on the same samples you receive for the Haemostasis program. Please refer to the information below which states the dispatches for which the Additional Factors Program will be run.

The tests required for each sample will also be indicated on the dispatch A5 insert included in the package, as well as the label on each sample vial.

JANUARY	Cycle 10 Run 1	INR10-01a INR10-01b APT10-01a APT10-01b	FVII, FIX FVII, FIX FXI, FXII FXI, FXII
APRIL	Cycle 10 Run 2	INR10-04a INR10-04b APT10-04a APT10-04b	FVII, FIX FVII, FIX FXI, FXII FXI, FXII
JULY	Cycle 10 Run 3	INR10-07a INR10-07b APT10-07a APT10-07b	FVII, FIX FVII, FIX FXI, FXII FXI, FXII
OCTOBER	Cycle 10 Run 4	INR10-10a INR10-10b APT10-10a APT10-10b	FVII, FIX FVII, FIX FXI, FXII FXI, FXII

FVIII will be tested on all APT10 samples in the General Haemostasis Program.

RECONSTITUTION INFORMATION -

SAMPLE	Reconstitution volume Distilled water	Test	Interpretation	Units
INR10-**a / b	No additional reconstitution required as samples should have already been reconstituted for the Haemostasis Program	FVII	Normal / Abnormal	%
INR10-**a / b		FIX	Normal / Abnormal	%
APT10-**a / b		FXI	Normal / Abnormal	%
APT10-**a / b		FXII	Normal / Abnormal	%

FVII / FIX:

- To be tested on the INR samples of the Haemostasis Program.
- Record results on Additional Factors result sheet 2010.

FXI / FXII:

- To be tested on the APTT samples of the Haemostasis Program.
- Record results on Additional Factors result sheet 2010.



DIFFERENTIAL WORKSHEET 2010

The slides have been examined and found to be homogeneous for the purpose of these exercises.

JANUARY	Cycle 10 Run 1	BF10-01	Differential Count
FEBRUARY	Cycle 10 Run 2	BF10-02/MO10-02a	Differential Count
MARCH	Cycle 10 Run 3	BF10-03	Differential Count
APRIL	Cycle 10 Run 4	BF10-04	Differential Count
MAY	Cycle 10 Run 5	BF10-05/MO10-05a	Differential Count
JUNE	Cycle 10 Run 6	BF10-06	Differential Count
JULY	Cycle 10 Run 7	BF10-07/MO10-07a	Differential Count
AUGUST	Cycle 10 Run 8	BF10-08	Differential Count
SEPTEMBER	Cycle 10 Run 9	BF10-09	Differential Count
OCTOBER	Cycle 10 Run 10	BF10-10/MO10-10a	Differential Count
NOVEMBER	Cycle 10 Run 11	BF10-11	Differential Count
DECEMBER	Cycle 10 Run 12	BF10-12	Differential Count

- Please perform a differential count on the stained blood film provided.
- The RCPA Haematology QAP currently use the ICSH stain. The stain will be noted on the insert included with each dispatch.
- For the sake of uniformity, please **do not** report bands but include them as either metamyelocytes or neutrophils according to the stage of maturation. **Please report your differential in whole numbers only.**
- When entering results online you must enter a numerical value in all cell lines, ie. if **no** basophils, myelocytes, blasts etc are counted on the film "0" must be entered in the entry field. If a field is left blank it will appear that no results were returned for that cell line.



D-DIMER WORKSHEET 2010

The samples have been tested and found to be homogeneous and stable for the purpose of these exercises.

- **DD10** samples are already in liquid form and require no further dilution or reconstitution.
- **DS10** samples are lyophilised plasma and will require reconstitution with distilled water. Please see over for reconstitution information.

FEBRUARY	Cycle 10 Run 1	DD10-02a	D-Dimer (Option 1 Fully Quantitative - Automated)
		DD10-02b	D-Dimer (Option 1 Fully Quantitative - Automated)
		DS10-02a	D-Dimer (Option 2 Semi Quant / Qual)
		DS10-02b	D-Dimer (Option 2 Semi Quant / Qual)
MAY	Cycle 10 Run 2	DD10-05a	D-Dimer (Option 1 Fully Quantitative - Automated)
		DD10-05b	D-Dimer (Option 1 Fully Quantitative - Automated)
		DS10-05a	D-Dimer (Option 2 Semi Quant / Qual)
		DS10-05b	D-Dimer (Option 2 Semi Quant / Qual)
AUGUST	Cycle 10 Run 3	DD10-08a	D-Dimer (Option 1 Fully Quantitative - Automated)
		DD10-08b	D-Dimer (Option 1 Fully Quantitative - Automated)
		DS10-08a	D-Dimer (Option 2 Semi Quant / Qual)
		DS10-08b	D-Dimer (Option 2 Semi Quant / Qual)
NOVEMBER	Cycle 10 Run 4	DD10-11a	D-Dimer (Option 1 Fully Quantitative - Automated)
		DD10-11b	D-Dimer (Option 1 Fully Quantitative - Automated)
		DS10-11a	D-Dimer (Option 2 Semi Quant / Qual)
		DS10-11b	D-Dimer (Option 2 Semi Quant / Qual)

Note: Participants who enter results on-line and wish to submit their results in FEU have to reconfigure their data entry page for D-Dimer.

RECONSTITUTION INFORMATION

SAMPLE	Reconstitution volume Distilled water	Test	Interpretation	Units
DD10 -**a / b	NIL	D-Dimer	Above / Below	D-Dimer mg/L or FEU mg/L
DS10 -**a / b	0.5 ml	D-Dimer	Detected / Not Detected	D-Dimer mg/L or FEU mg/L

D-Dimer – Option 1 DD samples:

- Already in liquid form and require no further dilution or reconstitution before processing through your analyser.
- Before processing allow samples to reach room temperature and swirl gently to ensure homogeneity.

D-Dimer – Option 2 DS samples:

- Reconstitute with 0.5 ml of distilled water. Allow to stand at RT for 10 minutes before testing.
- For semi-quantitative methods select appropriate range as well as interpretation e.g. Dimertest 0.4 – 0.8 mg/L Positive interpretation.
- For the purpose of statistical analysis the mid-point of the range is entered as your result.
- For qualitative methods only an interpretation is required.

Participants who enter results online and wish to submit their results in FEU will have to reconfigure their data entry page for D-Dimer. Please follow these instructions.

1. Login and proceed to online data entry for the General Haematology Program.
2. Enter "Result Page Configuration".
3. Select "D-Dimer – Option 1 (Automated)" and/or "D-Dimer – Option 2 (Semi-Quant/Qual)" tab.
4. For analyte D-Dimer there is a drop down menu which allows you to select either DD mg/L or FEU mg/L. Select FEU mg/L here.
5. You can now go to the data entry page and enter your results in FEU without any need to convert.

When your report is issued for D-Dimer, all results will be expressed in the same units as those you submitted. If you entered results in FEU all participant results will be converted to FEU before the report is generated.



HAEMOGLOBINOPATHY WORKSHEET 2010

The samples have been tested and found to be homogeneous and stable for the purpose of these exercises.

Samples are lyophilised and will require reconstitution with distilled water. Please see over for reconstitution information.

MARCH	Cycle 10 Run 1	HP10-03 HP10-03a	HbA ₂ , HbF, Variant, Diagnosis Blood film - if issued
MAY	Cycle 10 Run 2	HP10-05 HP10-05a	HbA ₂ , HbF, Variant, Diagnosis Blood film - if issued
AUGUST	Cycle 10 Run 3	HP10-08 HP10-08a	HbA ₂ , HbF, Variant, Diagnosis Blood film - if issued
OCTOBER	Cycle 10 Run 4	HP10-10 HP10-10a	HbA ₂ , HbF, Variant, Diagnosis Blood film - if issued

RECONSTITUTION INFORMATION

SAMPLE	Reconstitution volume Distilled water	Test	Interpretation	Units
HP10 -**	1mL	HbA ₂	Low / Normal / Borderline / Raised	%
		HbF	Low / Normal / Borderline / Raised	%
		Variant		%

- A freeze dried haemolysate is supplied.
- Reconstitute the lyophilised sample with 1 ml of distilled H₂O.
- Allow to stand for at least 10 minutes, then gently mix (Hb = 100g/L).
- Keep samples at 2-4°C until the time of testing & perform testing within 1 hour of reconstituting.
- Quantitate HbA₂, HbF and any Hb Variant (if present).
- Report results on RESULT SHEET, marking your results as LOW, NORMAL, BORDERLINE or RAISED.
- State clearly the method used for HbA₂ and HbF on the RESULT SHEET.
- If blood film has been provided please provide film comment in the comment section of the RESULT SHEET.
- Provide Diagnosis.
- Clinical information for the individual samples will be included with the dispatch insert.
- Results can now be entered online.

Special note to Helena Column Chromatography users:

- It is suggested that further dilutions of the haemolysate be prepared as follows:

50µL of haemolysate + 250µL of haemolysate Reagent C = 300µL(total volume) 100µL of this diluted haemolysate should then be applied to the column

HPLC users:

- Please include a copy of the chromatogram with your result sheet.



ESR WORKSHEET 2010

The samples have been tested and found to be homogeneous and stable for the purpose of these exercises.

Samples are composed of stabilised human red blood cells in a preservative medium. See Page 2 for sample handling and processing instructions.

JUNE	Cycle 10 Run 1	ESR10-06a ESR10-06b	ESR ESR
DECEMBER	Cycle 10 Run 2	ESR10-12a ESR10-12b	ESR ESR

GENERAL INFORMATION

SAMPLE	Volume Provided	Test	Interpretation	Units
ESR10 -**a / b	5.0ml	ESR	Normal / Raised	mm/hr

These samples are compatible with all manual and automated methods registered in this program *except* the Alifax Test1 and Sedimat 15 instruments. Any relevant details pertaining to the samples (e.g. age and sex of patient) will be provided on the packing slip accompanying your survey package.

Certain processing instructions are instrument specific. Please read carefully before proceeding.

SAMPLE HANDLING AND PROCESSING INSTRUCTIONS

These instructions are taken directly from the manufacturer's instructions for use.

MANUAL PROCEDURE

For manual testing, these samples should be handled in the same manner as a patient sample.

CAUTION: DO NOT remove sodium citrate or sodium chloride from tubes before using this control.

AUTOMATED PROCEDURE

Follow the instrument manufacturer's instructions for ESR testing for automated methods.

Diesse /Elan Diagnostics Ves-Matic and Mini-Ves instruments: Use the "Westergren 1hr" setting.

ESR-9 / Sedimatic 8: Use the "30 minute measuring" setting.

HANDLING INSTRUCTIONS:

1. Remove vials from refrigerator and allow them to equilibrate to room temperature (20-30 minutes).
2. Mix vials by inversion by vigorously rolling upright between palms until red cells are completely suspended. Continue to mix for 90 seconds. The samples may also be rotated on a rotator prior to use.
3. Draw the sample immediately after thorough mixing is completed.
If mixed vials sit for more than 1 minute, the vial must be remixed by repeating step 2. Incomplete mixing can invalidate both the sample drawn and the remaining product in the vial.
4. Follow the manufacturer's directions for filling the sedimentation rate tube for both automated and manual systems.
5. Wipe threads of vial and cap with clean tissue before closing. Recap the vial tightly.
6. Store opened vials at room temperature (18-30°C) or 2-10°C. The open-vial stability of the controls at these temperatures is 95 days.



FBC WORKSHEET 2010

The samples have been tested and found to be homogeneous and stable for the purpose of these exercises.
These samples are supplied in liquid form – no reconstitution is required.

JANUARY	Cycle 15 Run 1	FB15-01a FB15-01b	WCC, RCC, Hb, Hct, MCV, Plt WCC, RCC, Hb, Hct, MCV, Plt
FEBRUARY	Cycle 15 Run 2	FB15-02a FB15-02b	WCC, RCC, Hb, Hct, MCV, Plt WCC, RCC, Hb, Hct, MCV, Plt
MARCH	Cycle 15 Run 3	FB15-03a FB15-03b	WCC, RCC, Hb, Hct, MCV, Plt WCC, RCC, Hb, Hct, MCV, Plt
APRIL	Cycle 15 Run 4	FB15-04a FB15-04b	WCC, RCC, Hb, Hct, MCV, Plt WCC, RCC, Hb, Hct, MCV, Plt
MAY	Cycle 15 Run 5	FB15-05a FB15-05b	WCC, RCC, Hb, Hct, MCV, Plt WCC, RCC, Hb, Hct, MCV, Plt
JUNE	Cycle 15 Run 6	FB15-06a FB15-06b	WCC, RCC, Hb, Hct, MCV, Plt WCC, RCC, Hb, Hct, MCV, Plt
JULY	Cycle 16 Run 1	FB16-07a FB16-07b	WCC, RCC, Hb, Hct, MCV, Plt WCC, RCC, Hb, Hct, MCV, Plt
AUGUST	Cycle 16 Run 2	FB16-08a FB16-08b	WCC, RCC, Hb, Hct, MCV, Plt WCC, RCC, Hb, Hct, MCV, Plt
SEPTEMBER	Cycle 16 Run 3	FB16-09a FB16-09b	WCC, RCC, Hb, Hct, MCV, Plt WCC, RCC, Hb, Hct, MCV, Plt
OCTOBER	Cycle 16 Run 4	FB16-10a FB16-10b	WCC, RCC, Hb, Hct, MCV, Plt WCC, RCC, Hb, Hct, MCV, Plt
NOVEMBER	Cycle 16 Run 5	FB16-11a FB16-11b	WCC, RCC, Hb, Hct, MCV, Plt WCC, RCC, Hb, Hct, MCV, Plt
DECEMBER	Cycle 16 Run 6	FB16-12a FB16-12b	WCC, RCC, Hb, Hct, MCV, Plt WCC, RCC, Hb, Hct, MCV, Plt

SAMPLE HANDLING AND PROCESSING

These instructions were obtained directly from the manufacturer of the control material.

The samples provided contain 1mL of stabilised whole blood. Store the vials upright at 2-8°C when not in use. **Protect vials from overheating and freezing.** Unopened vials are stable until the expiration date.

1. Remove vial from the refrigerator and allow to warm at room temperature for 15 minutes before mixing.
2. To mix, hold vial horizontally between palms of the hands. **Do not pre-mix on a mechanical mixer.**
 - Roll the vial back and forth for 20-30 seconds; occasionally invert the vial. Mix vigorously but do not shake.
 - Continue to mix in this manner until the red cells are completely suspended. Vials stored for a long time may need extra mixing.
 - Gently invert the vial 8-10 times immediately before running each sample.
3. Return vials to refrigerator within 30 minutes of use.

PARTICIPANTS WITH MULTIPLE INSTRUMENTS

- If your laboratory has more than one backup instrument, the sample may be insufficient to process through the primary mode. In cases like this, please process your samples through the secondary mode.
- It is the participant's responsibility to be consistent in the submission of results. The instrument designated xxxx.1 should remain the same throughout the cycle in order for the end of cycle statistics and cumulated data to be meaningful.

BAYER USERS

- Laboratories processing their QAP-FBC samples on Bayer Instrumentation should run a saline primer after aspirating the RCPA Haematology QAP-FBC samples. This is done to prevent carryover of the platelets, which has occurred in the past and is unique to the product and the Bayer instrumentation.

SYSMEX / CELL DYN USERS

- As a result of the Primary/Secondary Mode special exercise sent in 2004 we recommend all Sysmex users process the QAP samples through the OPEN/MANUAL MODE.
- Sysmex XE/XT: The reticulocyte channel should NOT be enabled.
- Sysmex XE/XT: Please report your Impedance count for all parameters.

CELL DYN USERS

- CD4000: Please report your "Optical" count for the Platelets.



G6PD WORKSHEET 2010

The samples have been tested and found to be homogeneous and stable for the purpose of these exercises. The samples are haemolysates of human red cells in lyophilised form, containing stabilisers and preservatives. Reconstitute each vial with distilled water – see over for reconstitution and sample processing instructions.

APRIL	Cycle 10 Run 1	GD10-04a GD10-04b	G6PD screen, G6PD assay G6PD screen, G6PD assay
OCTOBER	Cycle 10 Run 2	GD10-10a GD10-10b	G6PD screen, G6PD assay G6PD screen, G6PD assay

RECONSTITUTION INFORMATION

SAMPLE	Reconstitution volume Distilled water	Test	Interpretation	Units
GD10 -**a / b	0.5 ml	G6PD Screen	Normal / Equivocal / Deficient	
		G6PD Assay	Normal / Deficient	U/g Hb

SAMPLE HANDLING AND PROCESSING INFORMATION

- Check expiry of reagents (READY FOR USE and RECONSTITUTED) prior to testing.
- Open the vial very carefully, avoiding any loss of the lyophilized material.
- Add exactly 0.5ml of distilled water.
- Close the vial carefully and gently swirl to dissolve.
- Allow the controls to stand for 15 minutes.
- Invert gently and swirl to assure homogeneity, avoiding the formation of foam. Do not shake.
- Let the controls stand at least 10 minutes. Swirl gently just prior to each use. Do not shake.
- Whole Blood Haemoglobin values for individual samples will be supplied with the dispatch insert.
- If your assay method uses the *Haemolysate* Haemoglobin in the calculation of G6PD activity eg Manual Beutler assay method, you must determine the haemoglobin of the haemolysate in the sample vial after reconstitution, as you would a patient sample.

G6PD Screens:

- Perform a G6PD screening test according to your laboratory's protocol. The samples should be treated in the same manner as a test blood sample.

G6PD Assays:

- In order to standardise resulting and to provide meaningful statistical analysis, **results must be expressed as G6PD activity at 37°C.** (See instructions below).

TRINITY BIOTECH (345-UV) METHOD:

- If you perform AND/OR report your result at 37°C, DO NOT APPLY A CONVERSION FACTOR.

Eg, with reference to the package insert,

$$\text{G6PD (U/g Hb)} = \Delta A \text{ per min} \times \frac{100 \times 3.01}{0.01 \times 6.22 \times \text{Hb (g/dL)}}$$

If you perform AND/OR report your result at 30°C, divide the results achieved at 30°C (U/g Hb) by 0.66 to convert your results to G6PD activity at 37°C:

Eg, if results reported at 30°C are 12.2 U/g Hb,

$$\text{the G6PD activity at 37°C would be } \frac{12.2}{0.66} = 18.5 \text{ U/g Hb}$$

OTHER ASSAY METHODS:

- Express your results as G6PD Activity at 37°C. If you are using a different kit method and you perform and/or report your results as activity at 30°C, you must contact the manufacturer of your kit to provide instructions to convert your results to G6PD activity at 37°C.



HAEMOSTASIS WORKSHEET 2010

The samples have been tested and found to be homogeneous and stable for the purpose of these exercises.

All samples are lyophilised plasma and will require reconstitution with distilled water. Please see over for reconstitution information.

JANUARY	Cycle 10 Run 1	INR10-01a INR10-01b APT10-01a APT10-01b	INR, Fibrinogen INR, Fibrinogen APTT, FVIII APTT, FVIII
FEBRUARY	Cycle 10 Run 2	INR10-02a INR10-02b APT10-02a APT10-02b	INR, Fibrinogen INR, Fibrinogen APTT, FVIII APTT, FVIII
APRIL	Cycle 10 Run 3	INR10-04a INR10-04b APT10-04a APT10-04b	INR, Fibrinogen INR, Fibrinogen APTT, FVIII APTT, FVIII
MAY	Cycle 10 Run 4	INR10-05a INR10-05b APT10-05a APT10-05b	INR, Fibrinogen INR, Fibrinogen APTT, FVIII APTT, FVIII
JULY	Cycle 10 Run 5	INR10-07a INR10-07b APT10-07a APT10-07b	INR, Fibrinogen INR, Fibrinogen APTT, FVIII APTT, FVIII
AUGUST	Cycle 10 Run 6	INR10-08a INR10-08b APT10-08a APT10-08b	INR, Fibrinogen INR, Fibrinogen APTT, FVIII APTT, FVIII
OCTOBER	Cycle 10 Run 7	INR10-10a INR10-10b APT10-10a APT10-10b	INR, Fibrinogen INR, Fibrinogen APTT, FVIII APTT, FVIII
NOVEMBER	Cycle 10 Run 8	INR10-11a INR10-11b APT10-11a APT10-11b	INR, Fibrinogen INR, Fibrinogen APTT, FVIII APTT, FVIII

RECONSTITUTION INFORMATION

SAMPLE	Reconstitution volume Distilled water	Test	Interpretation	Units
INR10-**a / b	1 ml	INR	Below / Therapeutic / Above	Ratio
		Fib		g/L
APT10-**a / b	1 ml	APTT	Normal / Extended	sec
		FVIII	Normal / Abnormal	%

INR:

- Reconstitute with 1ml of distilled water. Allow to stand at RT for 10 minutes before testing.
- Record results on Haemostasis result sheet 2010.
- INR - Interpretation should be in accordance with your THERAPEUTIC INTERVAL for anticoagulant therapy.
- Clinical information for each sample will be included with the dispatch insert.

Fibrinogen:

- Test the reconstituted INR sample.
- Centrifuge samples prior to testing if a turbidimetric method is used.
- Record results and report in g/L on Haemostasis result sheet 2010.

APTT, FVIII:

- Reconstitute with 1ml of distilled water. Allow to stand at RT for 10 minutes before testing.
- Record results on Haemostasis result sheet 2010.
- Consider these samples to be from patients being tested for pre-operative orthopaedic surgery.
- These patients are not on any anticoagulants.
- Mark the appropriate interpretation on the Haemostasis result sheet 2010.
- APTT – Interpretation should be in accordance with your reported REFERENCE INTERVAL.



MALARIAL PARASITE WORKSHEET 2010

APRIL	Cycle 10 Run 1	MA10-04a	Description and Diagnosis
		MA10-04b	Description and Diagnosis
		MA10-04c	Description and Diagnosis
		MA10-04d	Description and Diagnosis
NOVEMBER	Cycle 10 Run 2	MA10-11a	Description and Diagnosis
		MA10-11b	Description and Diagnosis
		MA10-11c	Description and Diagnosis
		MA10-11d	Description and Diagnosis

Provided are 2 case studies per dispatch.

The RCPA Haematology QAP reviews the performance of subscribing laboratories in the Malarial Parasite Program with a scoring system, which is outlined in the RCPA Haematology QAP Data Analysis booklet, found on the website (www.rcpaqap.com.au/haematology).

PLEASE NOTE: The blood films prepared are no longer coverslipped as this is an OH&S issue and we do apologise for this inconvenience. If you use your slides for teaching purposes you may want to cover slip the slides on receipt of the survey. The slides have been reviewed (1 in 20) to confirm all diagnostic features are present.

The samples have been tested and found to be homogeneous for the purpose of these exercises.



MORPHOLOGY WORKSHEET 2010

FEBRUARY	Cycle 10 Run 1	BF10-02/MO10-02a MO10-02b MO10-02c	Description and Diagnosis Description and Diagnosis Description and Diagnosis
MAY	Cycle 10 Run 2	BF10-05/MO10-05a MO10-05b MO10-05c	Description and Diagnosis Description and Diagnosis Description and Diagnosis
JULY	Cycle 10 Run 3	BF10-07/MO10-07a MO10-07b MO10-07c	Description and Diagnosis Description and Diagnosis Description and Diagnosis
OCTOBER	Cycle 10 Run 4	BF10-10/MO10-10a MO10-10b MO10-10c	Description and Diagnosis Description and Diagnosis Description and Diagnosis

Provided are 3 case studies per dispatch.

PLEASE NOTE: The blood films prepared are no longer coverslipped as this is an OH&S issue and we do apologise for this inconvenience. If you use your slides for teaching purposes you may want to coverslip the slides on receipt of the survey. The slides have been reviewed (1 in 20) to confirm all diagnostic features are present.

The samples have been tested and found to be homogeneous for the purpose of these exercises.



WORKSHEET

Point of Care INR 2010: FEBRUARY to OCTOBER DISPATCH

This worksheet provides your clinical notes and instructions for all components of the 2010 dispatches. Please read through these notes carefully before reporting your responses on a copy of the MASTER RESULT SHEET provided in your enrolment package.

Please return the RESULT SHEET only, to the RCPA Haematology QAP, by the closing date stated on the 2010 Program planner.

These products have been tested and found non reactive for the presence of hepatitis B surface antigen (HbsAg), human immunodeficiency virus antigen (HIV-1 Ag), antibody to hepatitis C virus (anti-HCV), and antibody to human immunodeficiency virus (anti-HIV-1/HIV-2). Because no known test method can offer complete assurance that infectious agents are absent, consider this product potentially infectious. Follow precautions recommended in current bio safety regulations for potentially infectious specimens when handling or disposing of product.

*These samples have been tested and found to be homogeneous and stable for this exercise.
Please store the specimens at 4°C until testing.*

CLINICAL INFORMATION:

POC10-02a / POC9-02b (February) is from a patient on anticoagulation therapy for a DVT.

POC10-04a / POC9-04b (April) is from a patient on anticoagulation therapy for a PE.

POC10-06a / POC9-06b (June) is from a patient on anticoagulation therapy for a recurrence of VTE.

POC10-08a / POC9-08b (August) is from a patient on anticoagulation therapy for a DVT.

POC10-10a / POC9-10b (October) is from a patient on anticoagulation therapy for a bileaflet mechanical aortic valve replacement.

Please interpret your results by ticking the appropriate box on your result sheet.

Options include:

Below therapeutic

Therapeutic

Above therapeutic

Point of Care INR 2010

TESTING INSTRUCTIONS:

Make sure your device is in citrated plasma or control mode for testing if required. Please test the survey samples by mixing reconstituted INR plasma with the supplied recalcification fluid exactly as described below.

1. You have been supplied with distilled water for reconstitution and CaCl_2 for recalcification in small sealed plastic pasteur pipettes. **Please check the labels carefully before use.**
2. Firstly, carefully cut off the sealed end as close to the tip as possible of the distilled water pipette (clear label). Gently transfer all the distilled water into the lyophilised specimen. Replace the lid and swirl gently for approximately 10secs. Allow to stand at room temperature for approximately 10 min before processing.
3. Secondly, when you are ready to proceed with testing, and not before, carefully cut off the sealed end as close to the tip as possible of the CaCl_2 pipette (pink label). Gently transfer all the CaCl_2 contents into the reconstituted plasma survey sample. (This is an important step and all the CaCl_2 contents of the plastic pipette must be completely transferred into the reconstituted plasma). Replace the rubber cap and mix well by gentle swirling for 10-15secs.
4. Within 20-30secs of recalcification use the supplied baby plastic pipette to draw the plasma up and down a few times to mix well before applying a drop of plasma to your pre-warmed strip or cartridge.

If 2 devices are in use then apply 1 drop of the test mixture simultaneously to each machine.

5. Record the INR on your result sheet for either the **CoaguChek XS** and/or **i-STAT** instrument.
6. Repeat this entire procedure (Steps 1-5) for the second sample.

ENTER your INR results on the result sheet provided in your enrolment package or directly on line through the RCPA Haematology QAP web site.

Important Note: Please record the lot number, expiry date and code (if applicable) of the strip or cartridges and instrument used in this exercise on your result sheet. This information is useful in monitoring any discrepancies between various reagent lot numbers.



RETICULOCYTE WORKSHEET 2010

These samples have been tested and found to be homogeneous and stable for the purpose of these exercises, and are manufactured from human red blood cells in a preservative medium.

JUNE	Cycle 10 Run 1	RE10-1-06a	Module 1 - Reticulocyte Count
		RE10-1-06b	Module 1 - Reticulocyte Count
		RE10-2-06a	Module 2 - Reticulocyte Count
		RE10-2-06b	Module 2 - Reticulocyte Count
		RE10-3-06a	Module 3 - Reticulocyte Count
		RE10-3-06b	Module 3 - Reticulocyte Count
DECEMBER	Cycle 10 Run 2	RE10-1-12a	Module 1 - Reticulocyte Count
		RE10-1-12b	Module 1 - Reticulocyte Count
		RE10-2-12a	Module 2 - Reticulocyte Count
		RE10-2-12b	Module 2 - Reticulocyte Count
		RE10-3-12a	Module 3 - Reticulocyte Count
		RE10-3-12b	Module 2 - Reticulocyte Count

Module	Method/Instrument Group
RE1	Manual Method
RE2	Siemens Advia 120/2120, H3 Abbott CD3200/Ruby, CD3500, CD3700, CD4000/Sapphire Sysmex XE2000i, XE2100/XE5000, RAM-1 Beckman Coulter STKS, MAXM, HMX, ACT5 Diff, ABX Pentra 60 C+
RE3	Beckman Coulter Gen.S, LH Series

GENERAL INFORMATION

SAMPLE	Volume Provided	Test	Interpretation	Units
RE10 -1-**a / b	1.0 ml	Reticulocyte Count (In-house + Commercial Stains)	Low / Normal / Raised	%, X10 ⁹ /L
RE10 -2-**a / b	1.0 ml	Reticulocyte Count	Low / Normal / Raised	%, X10 ⁹ /L
RE10 -3-**a / b	2.0 ml	Reticulocyte Count	Low / Normal / Raised	%, X10 ⁹ /L

Any relevant details pertaining to the samples (e.g. age and sex of patient) will be provided on the packing slip accompanying your survey package.

Certain processing instructions are instrument specific. Please read carefully before proceeding.

MODULE 1 (RE1): MANUAL COUNTING

- A vial of commercial Reticulocyte Stain (Retic Stain-A) has been provided to participants who have registered a MANUAL counting method. You are required to perform a **percentage** and **absolute** count using your in-house stain AS WELL AS Retic Stain-A. The results submitted using the in-house stain will assess your laboratory's processes while those using Retic Stain-A will assess the enumeration. Failure to submit both sets of results will produce a "No Results Returned" flag on your report.
- **N.B.** If you use Streck commercial stain as your in-house stain, you are still required to submit both sets of results as the stain QAP provides may have a different lot number to the one you are using.
- The interpretation must be made on the results obtained using Retic Stain-A.

SAMPLE HANDLING AND PROCESSING INFORMATION

A. Survey Samples (RE10-1-**a / **b)

(These instructions are taken directly from the manufacturer's instructions for use).

Use product immediately after removing from refrigerator.

1. Mix by gentle inversion between thumb and index finger until red blood cells are completely resuspended. Do not mix mechanically. Do not rub between palms of hands.
2. Refer to appropriate procedure section below.
3. Wipe threads of vial and cap with clean tissue before replacing cap. Recap vial.
4. Return to refrigerator immediately.

Use product immediately after removing from refrigerator.

5. Mix by gentle inversion between thumb and index finger until red blood cells are completely resuspended. Do not mix mechanically. Do not rub between palms of hands.
6. Process as required.
7. Wipe threads of vial and cap with clean tissue before replacing cap. Recap vial.
8. Return to refrigerator immediately.

B. Retic Stain-A

(These instructions are taken directly from the manufacturer's instructions for use)

1. Mix the survey samples by gentle inversion (See above).
2. Prepare a dilution using equal number of drops each of survey samples and Retic Stain-A.
3. Incubate the tubes at ROOM TEMPERATURE for 20 minutes.

4. Mix well. Prepare a film and allow to dry.
5. Enumerate reticulocytes according to your laboratory's protocol.

C. Calculation of Absolute Reticulocyte Count

A red cell count will also be provided for users of the MANUAL method to convert their percentage count to the absolute count.

Calculations: Absolute Reticulocyte Count = Reticulocytes (%) x Total RBC ($10^{12}/L$)

Example: Reticulocyte Count (%) = 2.2

$$\text{Total RBC Count} = 3.3 \times 10^{12}/L$$

$$\begin{aligned} \text{Absolute Reticulocyte Count} &= \frac{2.2}{100} \times 3.3 \times 10^{12}/L \\ &= 0.0726 \times 10^{12}/L \\ &= 72.6 \times 10^9/L \end{aligned}$$

MODULE 2 (RE2): AUTOMATED COUNTING

SAMPLE HANDLING AND PROCESSING INFORMATION

A. Survey Samples (RE10-2-**a / **b)

(These instructions are taken directly from the manufacturer's instructions for use).

1. Mix by gentle inversion between thumb and index finger until red blood cells are completely resuspended. Do not mix mechanically. Do not rub between palms of hands.
2. Process as required (**Important! See below for specific procedural instructions***).
3. Wipe threads of vial and cap with clean tissue before replacing cap. Recap vial.
4. Return to refrigerator immediately.

AUTOMATED PROCEDURE: The user should follow the instrument manufacturer's instructions for performing automated reticulocytes. If required, transfer the sample into another tube prior to testing.

NB: *When using the sample on the *Abbott CELL-DYN 3500/3700, it is recommended that analysis be performed 30 minutes after sample is added to the reagent.*

When using the sample on the *SYSMEX XE and XT series, it must be processed through the QC mode. (See below).

INSTRUCTIONS FOR QC MODE PROCESSING

A. SYSMEX XE SERIES

Summary: The RCPA specimen needs to be run into one of the Manual E-Check QC files – for example Level 2 Manual. The results are then deleted from the QC files and printed from the Explorer screen. See Operators Manual Chapter 2, Section 3. 3.1

Details:

- Refer to the “Instructions for Use” for the control material.
- For HST sites, set the appropriate conveyor in single mode.
- Press “QC” on the main screen.
- Press “Exec QC” on the QC menu.
- Select one of the manual mode E-Check files – for example “Level 2 Manual”. (Do not use one of the “Other” files).
- Press “Select”.
- Mix the sample as described in the “Processing Instructions ” for the control material.
- Aspirate sample.
- Press “Cancel” – Results do not have to be accepted.
- Go to “Explorer” and select the RCPA results.
- (You may change the ID of the QC specimens that you have just run from “QC-lot number” to an RCPA ID)
- Print the results and delete any results from the QC file that have been accepted.

B. XT SERIES

Summary: The RCPA specimen needs to be run into one of the manual E-Check QC files – for example Level 2 Manual. The results are then printed from the Explorer screen. See Operators Manual Chapter 6, Section 3.1

Details:

- Refer to the “Instructions for Use” for the control material.
- Go to “QC Analysis” on the main menu.
- (If “QC Analysis” is not visible on the main menu then go to “Controller” then “QC Analysis”).
- Select a manual E-Check QC file – for example “Level 2 Manual”. (Do not select one of the “Other” files).
- Mix the sample as described in the “Instructions for Use” for the control material.
- Aspirate sample.
- Press “Cancel”– Results do not have to be accepted.
- Go to “Explorer” and select the RCPA results.
- (You may change the ID of the QC specimens that you have just run from “QC-lot number” to an RCPA ID).
- Print the results and delete any RCPA results from the QC file that have been accepted.

MODULE 3 (RE3): AUTOMATED COUNTING

SAMPLE HANDLING AND PROCESSING INFORMATION (RE10-3-a / **b)**

(These instructions are taken directly from the manufacturer’s instructions for use).

1. Remove vials of control material from the refrigerator. It is not necessary to warm the controls to room temperature before use.
2. To mix: **(Do not mix mechanically)**
 - a. Hold vial horizontally between the palms of the hands and roll the vial back and forth for 20 or 30 seconds.
 - b. Mix by rapid inversion to ensure the cells are suspended.
 - c. Vials stored for an extended period of time may require extra mixing.
 - d. Gently invert the vials 8 to 10 times immediately before sampling.
3. The user should follow the instrument manufacturer’s instructions for performing automated reticulocyte counts.
4. After sampling, return to refrigeration for maximum open-vial stability. If run in the open mode, wipe the threads of both the vial and cap before replacing cap and returning to refrigeration.