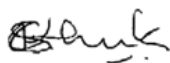



TEST	CODE	UNIT	GENDER	AGE (from-to)	RANGE	Reference	Method in Use								
Erythrocytes	HRBC	x10 <sup>12</sup> /L	M	13Y - <14Y	4.2 - 6.0	See Note to File on Page 2 and Page 3	Beckman LH500/750 reportable unit is /10 <sup>12</sup> /L. Roche Sysmex 2000i reportable unit is /pL. Both units are equivalent.								
			F	13Y - <14Y	3.8 - 5.8										
			M	14Y - 108Y	4.5 - 6.5										
			F	14Y - 108Y	3.8 - 5.8										
Haemoglobin	HHBO	g/dL	M	13Y - <14Y	12.0 - 15.5		See Note to File on Page 2 and Page 3	Beckman LH500/LH750 @ Johannesburg or KwaZulu Natal - Roche Sysmex 2000i when required.							
			F	13Y - 108Y	11.5 - 16.5										
			M	14Y - 108Y	13.0 - 18.0										
Haematocrit	ZHHCT	L/L	M	13Y - <14Y	0.37 - 0.49				See Note to File on Page 2 and Page 3	Beckman LH500/LH750 @ Johannesburg or KwaZulu Natal - Roche Sysmex 2000i when required.					
			F	13Y - <14Y	0.36 - 0.47										
			M	14Y - 108Y	0.40 - 0.54										
			F	14Y - 108Y	0.36 - 0.47										
Mean Cell Volume	HMCV	fL	M/F	13Y - <14Y	76 - 95						See Note to File on Page 2 and Page 3	Beckman LH500/LH750 @ Johannesburg or KwaZulu Natal - Roche Sysmex 2000i when required.			
				14Y - 108Y	76 - 99										
Mean Cell Haemoglobin	ZHMCH	pg	M	13Y - <14Y	26 - 34								See Note to File on Page 2 and Page 3	Beckman LH500/LH750 @ Johannesburg or KwaZulu Natal - Roche Sysmex 2000i when required.	
			F	13Y - 108Y	26 - 34										
			M	14Y - 108Y	26 - 33										
Mean Cell Haemoglobin Concentration	ZHMCHC	g/dL	M/F	13Y - 108Y	30 - 37	See Note to File on Page 2 and Page 3									Beckman LH500/LH750 @ Johannesburg or KwaZulu Natal - Roche Sysmex 2000i when required.
Platelets	HPLAT	x10 <sup>9</sup> /L	M/F	13Y - 108Y	150 - 450										
Leucocytes	HWBCO	x10 <sup>9</sup> /L	M/F	13Y - 108Y	4.0 - 12.0										
Neutrophils	ZHNEUTPRT	x10 <sup>9</sup> /L	M/F	13Y - 108Y	2.0 - 7.5										
Lymphocytes	ZHLYMPRT	x10 <sup>9</sup> /L	M/F	13Y - 108Y	1.0 - 4.0										
Monocytes	ZHMONOPRT	x10 <sup>9</sup> /L	M/F	13Y - 108Y	0.2 - 1.0										
Eosinophils	ZHEOSPRT	x10 <sup>9</sup> /L	M/F	13Y - 108Y	0.00 - 0.50										
Basophils	ZHBASOPRT	x10 <sup>9</sup> /L	M/F	13Y - 108Y	0.00 - 0.30										



 <b>BIOANALYTICAL RESEARCH CORPORATION</b> SOUTH AFRICA (PTY) LTD In cooperation with Lancel Laboratories CENTRAL LABORATORY FOR CLINICAL TRIALS Websites: www.barc.co.za or www.barc@lancet.com / E-Mail: barc@lancet.co.za	<b>BARC SA Pty Ltd Johannesburg</b> Napier House 11 Napier Road Richmond, 2092 Tel : +27 11 242-7044 +27 11 358-0901 Fax : +27 11 358-0748	<b>BARC SA Pty Ltd Durban</b> 102 Lancel Medical Centre 74 Lome Street Durban, 4001 Tel : +27 31 308-6617 Fax : +27 31 308-6615	<b>BARC SA Pty Ltd Pretoria</b> Pencardia Building 1st Floor 509 Pretorius Street Arcadia 0083 Tel : +27 12 483-0255/6/7 Fax: +27 12 483-0259	<b>BARC SA Pty Ltd Cape Town</b> Waverley Business Park Unit 7, Bldg 23B Wycroft Road Mowbray, 7700 Tel: +27 21 448-4311 Fax: +27 21 448-5604
--	--	--	--	---

VAT number: 4820184234 Company Registration number: 199901056807

---

12 October 2009

**To Whom It May Concern**

**Haematology Reference Ranges**

Please note that on investigation into the history of the origin of the haematology reference ranges at Lancel, it would appear that, historically, Lancel Adult Haematology reference ranges for Johannesburg were adopted from the South African Institute of Medical Research, (SAIMR), now known as the National Health Laboratory Services (NHLS).


These ranges were then checked by the Lancel Haematology department in Johannesburg sometime in the late 1980s using 100 normal patients.

The Haematology reference ranges for the coastal level were determined in the 1980's by Ferguson, Roux and Partners, a local laboratory in Durban, now known as Ampath Trust. These were then adopted by all the coastal laboratories.

The Paediatric Haematology reference ranges for Johannesburg were adopted from Wintrobe in the 80's.

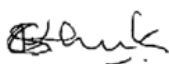
Unfortunately all this happened long before the laboratories were accredited and they did not keep the documentation in perpetuity as we do now.


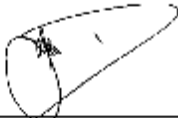
Please note that these ranges have been deemed acceptable for the local population by the pathologists' serving these practices over the last 30 years, and that we accept these as our references ranges.

  
\_\_\_\_\_  
Dr. Jessica Trusler  
MEDICAL DIRECTOR  
BARC S.A. Clinical Trials Laboratory

---

JOINT VENTURE OF BARC INTERNATIONAL WITH LANCET LABORATORIES  
DIRECTORS: Dr Paul Magrez (Belgium), J. Albrecht (Belgium), Dr P.R. Cole (South Africa)  
Dr J. Trusler (Medical Director)



 BIOANALYTICAL RESEARCH CORPORATION SOUTH AFRICA (PTY) LTD In cooperation with Lancel Laboratories CENTRAL LABORATORY FOR CLINICAL TRIALS Websites: www.barc.co.za or www.barclab.com / E-Mail: barc@lancet.co.za	<b>BARC SA Pty Ltd Johannesburg</b> Napier House 11 Napier Road Richmond, 2092 Tel : +27 11 242-7044 +27 11 358-0901 Fax : +27 11 358-0748	<b>BARC SA Pty Ltd Durban</b> 102 Lancel Medical Centre 74 Lome Street Durban, 4001 Tel : +27 31 308-6617 Fax : +27 31 308-6615	<b>BARC SA Pty Ltd Pretoria</b> Pencardia Building 1st Floor 509 Pretorius Street Arcadia 0083 Tel : +27 12 483-0255/6/7 Fax: +27 12 483-0259	<b>BARC SA Pty Ltd Cape Town</b> Waverley Business Park Unit 7, Bldg 23B Wycroft Road Mowbray, 7700 Tel: +27 21 448-4311 Fax: +27 21 448-5604
<b>VAT number: 4820194234</b>		<b>Company Registration number: 199901056807</b>		
<hr/>				
<b>19 November 2009</b>				
<p><u><b>No Reference Ranges for FBC Differential Counts Reported in %</b></u></p>				
<p>Please note that the reference ranges for the differential counts reported in percentage (%) have not been included in the BARC SA Haematology Reference Ranges, as these are derived from a calculation between the absolute differential counts and the total white cell count. As the differential counts reported in absolute values vary there are no set reference ranges for the differential counts expressed in percentage (%).</p>				
 <hr/>		<b>19 November 2009</b> <hr/>		
<b>Dr. Jessica Trusler</b> <b>Medical Director</b> <b>BARC SA Clinical Trials Laboratory</b>		<b>Date</b>		
<hr/>				
<p>Page 1 of 1</p>				
<hr/>				
<p>JOINT VENTURE OF BARC INTERNATIONAL WITH LANCET LABORATORIES DIRECTORS: Dr Paul Magrez (Belgium), J. Albrecht (Belgium), Dr P.R. Cole (South Africa) Dr J. Trusler (Medical Director)</p>				

