

# Krevní obrazy a diferenciální rozpočty leukocytů

*(příklady hodnocení přístrojových výsledků)*

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# Při hodnocení sledovat

- vyšetření poprvé / opakovaně
- typ diagnózy
- pacient: ambulantní, lůžkové odd., JIP...
- vyšetření rutinní, statimové, speciální, vitální indikace
- výsledky jsou mimo referenční rozmezí
- náhlé změny v KO
- interference
- patologická hlášení
- správný odběr, typ vyšetřovaného materiálu

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*Vysvětlivky: M/F muž/žena, ✓ hodnoty fyziologické, ↓↑ hodnoty nízké/vysoké, ↔ hodnoty hraniční, ↘ patologie v grafu, IG nezralé granulocyty, BD tyče NE, BL blasty, VL variantní LY, PLT<sub>o/i</sub> optická/impedanční analýza PLT*

# Laboratorní informační systém

Pojišťovna...	VZP	BM...	.....
Oddělení.....	Zo..E	.....	.....
Lékař.....		.....	.....
Diagnóza.....D471		.....	Výška [cm]
F1 Komentář.....		.....	Váha [kg]
---Dat.nar.----- 5/ 9/1943-Ž- (M/Ž)---			
F9 VYŠETŘENÍ.....		F3 Sign(+-) *	11636/21/02

KO = 0	MPV = 9.30	MONO= 1.08	Eos9= 2.00	NRBC= 9	LGLh= 4
WBC = 9.18	PCT = 2.80	EOS = 0.13	Bas9= 3.00	HodE=polychr	= 0.26
RBC = 3.85	PDW = 10.00	BASO= 0.31	META= 8.00	HodL=hypogra	AKRE=
HGB = 115.00	NEU%= 69.10	NRBC= 0.71	MYEL= 6.00	HodL=	AU =XE-5000
HCT = 0.33	LYM%= 14.30	NR/W= 7.70	PROM= 0.00	HodP=anizo P	KOME=Left Sh
MCV = 86.20	MON%= 11.80	Dif	MYBL= 0.00	Dif:=RNDr. L	= 0
PLT = 299.00	EOS%= 1.40	Neu9= 52.00	Prol= 0.00	Dif:=	K LA= 198
MCH = 29.90	BAS%= 3.40	Ban9= 13.00	Plb = 0.00	Dif:=	K S = 44
MCHC= 346.00	NEU = 6.35	Lym9= 12.00	NeBu= 0.00	H100= 100.00	SUIT= 12939
RDW = 17.80	LYM = 1.31	Mon9= 3.00	NeBl= 1.00	LGL = 0.367	UPO =Výsledk
===== 119=====		===== 130=====		===== 144=====	
===== 198=====		===== 44=====			

onec=ESC F2=Tisk F4=Archiv F8=Do Pošty F9=Změny výsledků Listování=PgUp,PgD

# Laboratorní informační systém – historie vyšetření

21/02/2014	10/01/2014	27/11/2013	27/11/2013	27/11/2013	25/10/2013
WBC = 9.18	WBC = 10.30		WBC = 11.30		WBC = 9.33
RBC = 3.85	RBC = 3.52		RBC = 3.68		RBC = 3.36
HGB = 115.00	HGB = 110.00		HGB = 108.00		HGB = 102.00
HCT = 0.33	HCT = 0.30		HCT = 0.31		HCT = 0.29
MCV = 86.20	MCV = 86.10		MCV = 84.50		MCV = 86.30
PLT = 299.00	PLT = 362.00		PLT = 423.00		PLT = 352.00
MCH = 29.90	MCH = 31.10		MCH = 29.30		MCH = 30.40
MCHC= 346.00	MCHC= 361.00		MCHC= 347.00		MCHC= 352.00
RDW = 17.80	RDW = 16.90		RDW = 17.00		RDW = 17.40
MPV = 9.30	MPV = 7.18		MPV = 6.95		MPV = 8.90
PCT = 2.80	PCT = 2.60		PCT = 2.94		PCT = 3.10
PDW = 10.00	PDW = 16.70		PDW = 17.00		PDW = 9.30
NEU = 6.35	NEU = 7.82		NEU = 7.35		NEU = 6.63
LYM = 1.31	LYM = 1.54		LYM = 2.66		LYM = 1.14
MONO= 1.08	MONO= 0.82		MONO= 1.10		MONO= 1.11
EOS = 0.13	EOS = 0.09		EOS = 0.11		EOS = 0.17
BASO= 0.31	BASO= 0.01		BASO= 0.04		BASO= 0.28
NEU%= 69.10	NEU%= 76.00		NEU%= 65.30		NEU%= 71.10
LYM%= 14.30	LYM%= 14.90		LYM%= 23.60		LYM%= 12.20
MON%= 11.80	MON%= 8.00		MON%= 9.81		MON%= 11.90
EOS%= 1.40	EOS%= 0.90		EOS%= 0.95		EOS%= 1.80

Komentář

konc=ESC

F2=Tisk

F5=Filtr metod

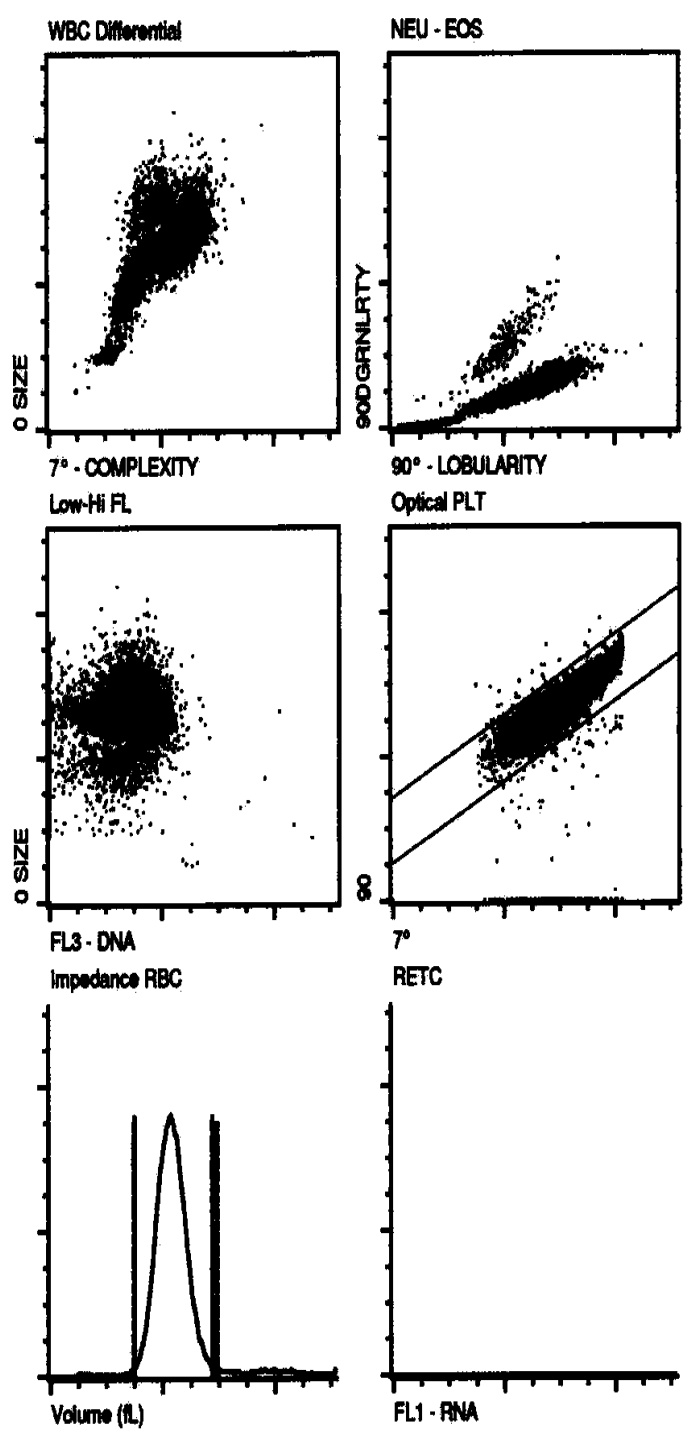
<- ->

DOB:  
 Sex:  
 Doctor:  
 User Defined A:  
 User Defined B:  
 User Defined C:  
 User Defined D:

WBC 9.36 10e9/L  
 NEU 5.55 %N 59.3  
 LYM 2.40 %L 25.6  
 MONO .896 %M 9.57  
 EOS .450 %E 4.81  
 BASO .066 %B .703

RBC 4.28 10e12/L  
 HGB 138. g/L  
 HCT .373 L/L  
 MCV 87.1 fL  
 MCH 32.3 pg  
 MCHC 371. g/L  
 RDW 11.6 %CV  
 RETC --- 10e9/L %R ---  
 IRF ---  
 NRBC 0.00 10e9/L NRW 0.00

PLT 190. 10e9/L  
 MPV 8.53 fL



1M

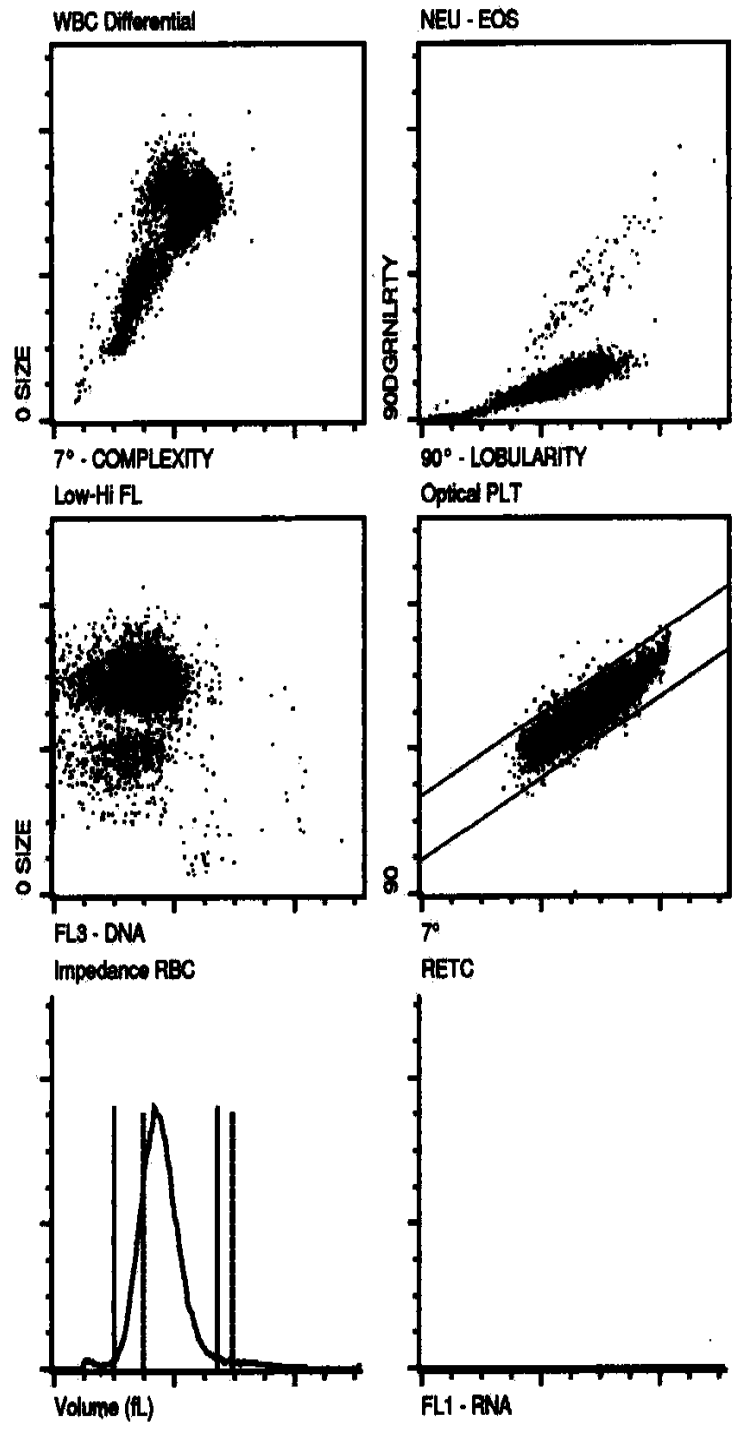
KO v normě



DOB: 06/11/77  
 Sex: F  
 Doctor: 0589/26/04/2011  
 User Defined A:  
 User Defined B:  
 User Defined C:  
 User Defined D:

WBC	8.02	10e9/L	✓		
NEU	5.34		%N	66.6	
LYM	1.61		%L	20.1	↔
MONO	.836		%M	10.4	
EOS	.171		%E	2.14	
BASO	.060		%B	.749	

RBC	3.97	10e12/L	✓		
HGB	88.7	g/L			
HCT	28.2	L/L			
MCV	71.1	fL			
MCH	22.3	pg			
MCHC	314	g/L			
RDW	17.4	%CV	↑		
RETc	---	10e9/L	%R	---	
IRF	---				
NRBC	0.00	10e9/L	NRW	0.00	
PLT	499	10e9/L	↑		
MPV	9.05	fL			



2F

patologický KO

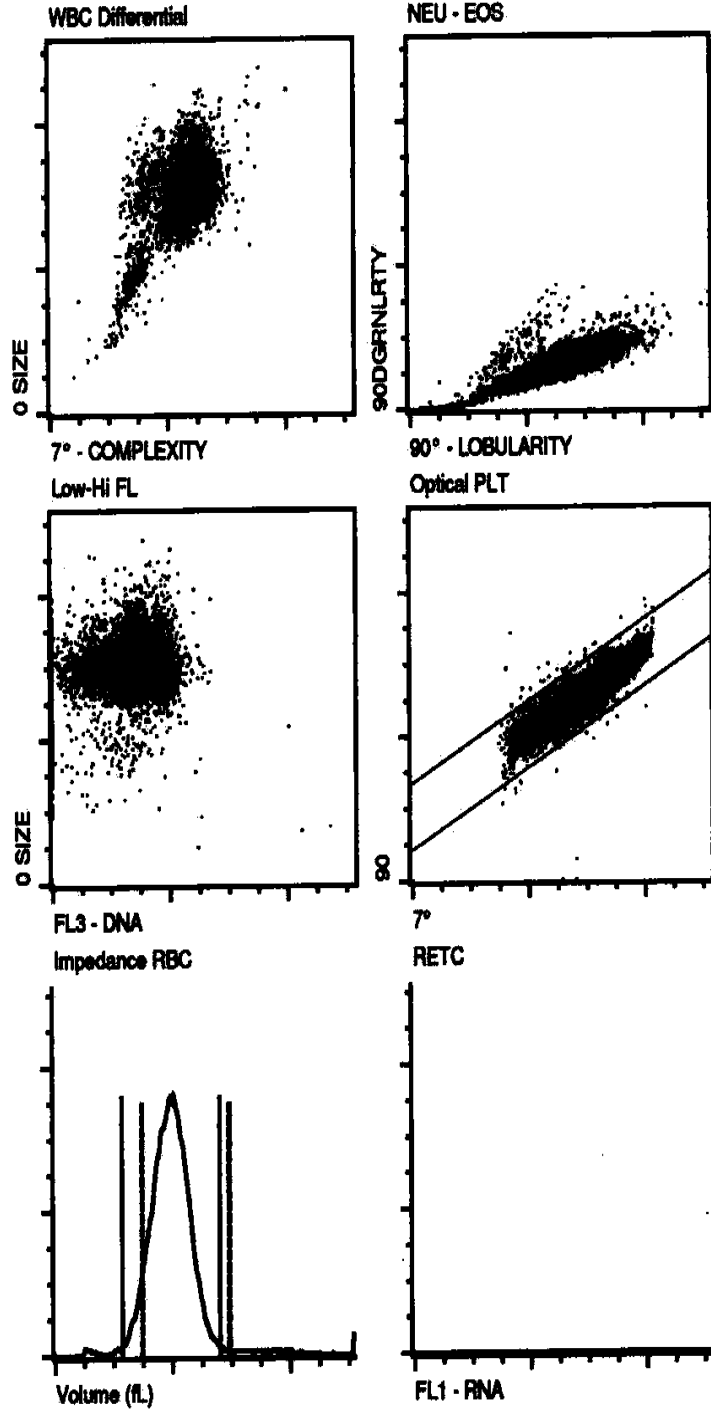
DOB: 09/05/56  
 Sex: F  
 Doctor: 0542/26/04/2011  
 User Defined A:  
 User Defined B:  
 User Defined C:  
 User Defined D:

WBC	<u>25.4</u>	10e9/L	↑	%N	<u>86.3s</u>	↑
NEU	<u>21.9s</u>			%L	<u>5.06</u>	↓
LYM	1.28			%M	6.19	
MONO	<u>1.57</u>			%E	2.43	
EOS	<u>.616</u>			%B	.055	
BASO	.014					

RBC	<u>3.08</u>	10e12/L	↓	%R	---
HGB	<u>82.1</u>	g/L			
HCT	<u>.244</u>	L/L			
MCV	<u>79.3</u>	fL			
MCH	<u>26.7</u>	pg			
MCHC	<u>337.</u>	g/L			
RDW	<u>15.5</u>	%CV	↔		
RETC	---	10e9/L			
IRF	---				
NRBC	0.00	10e9/L		NRW	0.00

PLT	256.	10e9/L	✓
MPV	8.75	fL	



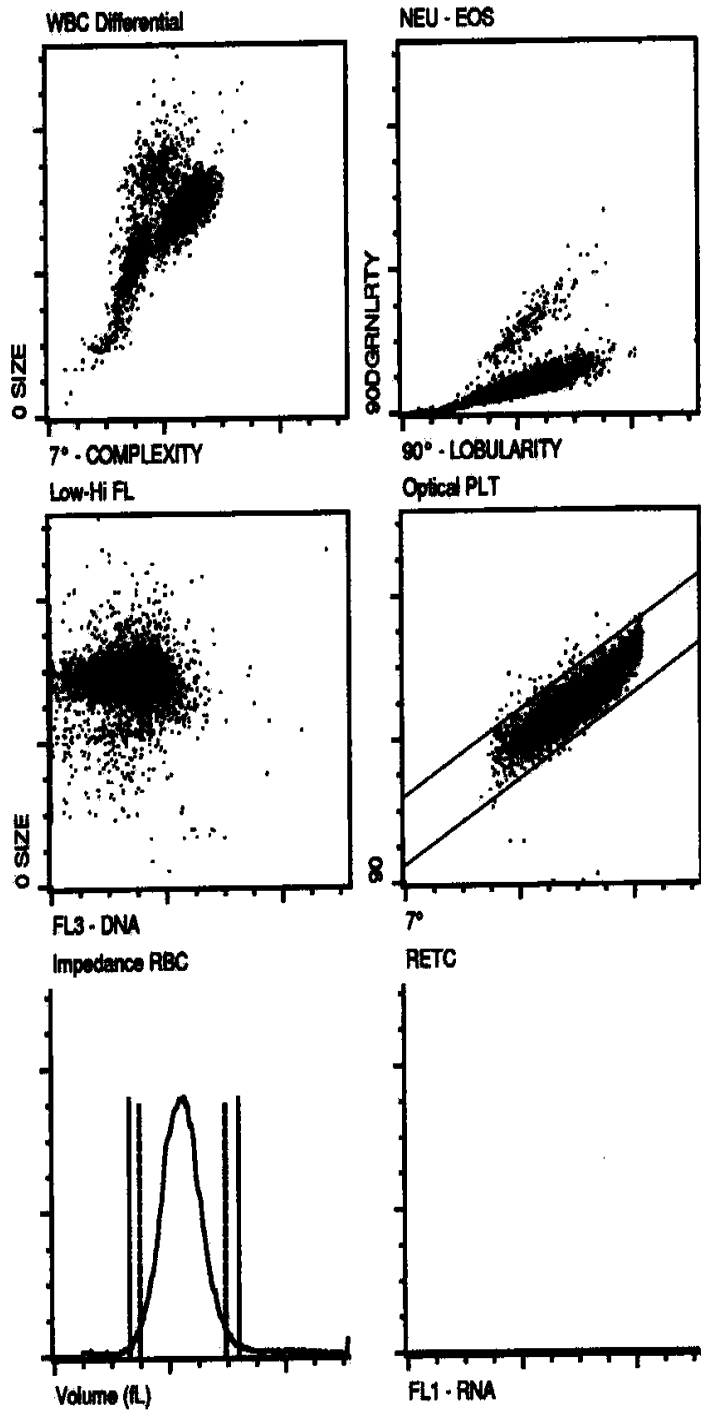
3F

patologický KO

DOB: 26/02/46  
 Sex: M  
 Doctor: 0509/26/04/2011  
 User Defined A:  
 User Defined B:  
 User Defined C:  
 User Defined D:

WBC	<u>11.6</u>	10e9/L ↑			
NEU	<u>9.31</u>		%N	<u>80.1</u>	↑
LYM	<u>1.30</u>		%L	<u>11.2</u>	↓
MONO	.526		%M	4.53	
EOS	.461		%E	3.97	
BASO	.027		%B	.233	

RBC	<u>2.94</u>	10e12/L			
HGB	<u>86.3</u>	g/L			
HCT	<u>.263</u>	L/L			↓
MCV	89.3	fL			✓
MCH	29.3	pg			
MCHC	329.	g/L			
RDW	<u>15.4</u>	%CV			↔
RETC	---	10e9/L	%R	---	
IRF	---				
NRBC	0.00	10e9/L	NRW	0.00	
PLT	<u>99.0</u>	10e9/L			↓
MPV	10.7	fL			



4M

patologický KO

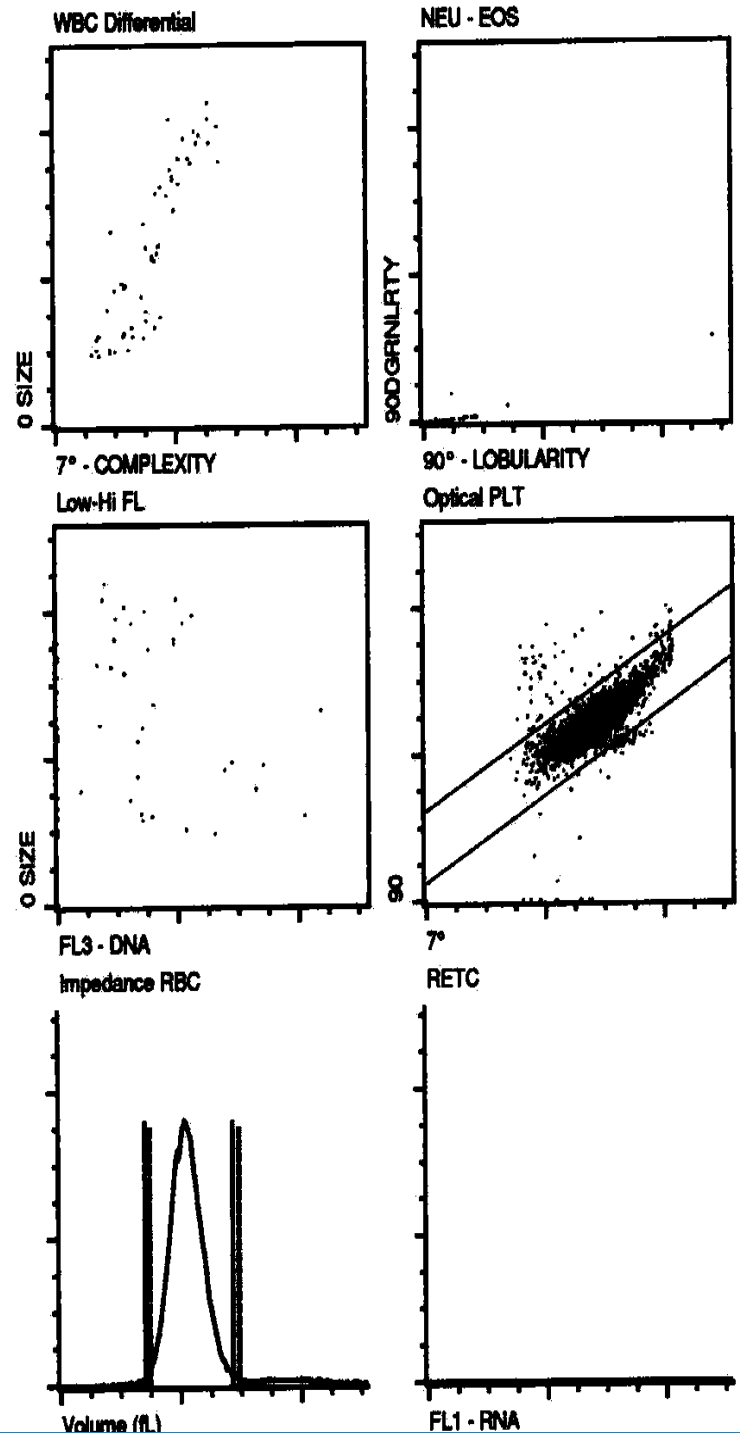


DOB: 14/02/48  
 Sex: F  
 Doctor: 0582/26/04/2011  
 User Defined A:  
 User Defined B:  
 User Defined C:  
 User Defined D:

WBC	<u>.068</u>	10e9/L			
NEU	<u>.006</u>		%N	<u>9.52</u>	
LYM	<u>.045s</u>		%L	<u>66.7s</u>	
MONO	<u>.016s</u>		%M	<u>23.8s</u>	
EOS	0.00		%E	0.00	
BASO	0.00		%B	0.00	

RBC	<u>3.77</u>	10e12/L		
HGB	<u>112.</u>	g/L		
HCT	<u>319</u>	L/L		
MCV	84.8	fL		
MCH	29.8	pg		
MCHC	351.	g/L		
RDW	12.5	%CV		
RETc	---	10e9/L	%R	---
IRF	---			
NRBC	0.00	10e9/L	NRW	0.00

PLT	<u>21.8</u>	10e9/L	
MPV	10.3	fL	



5F

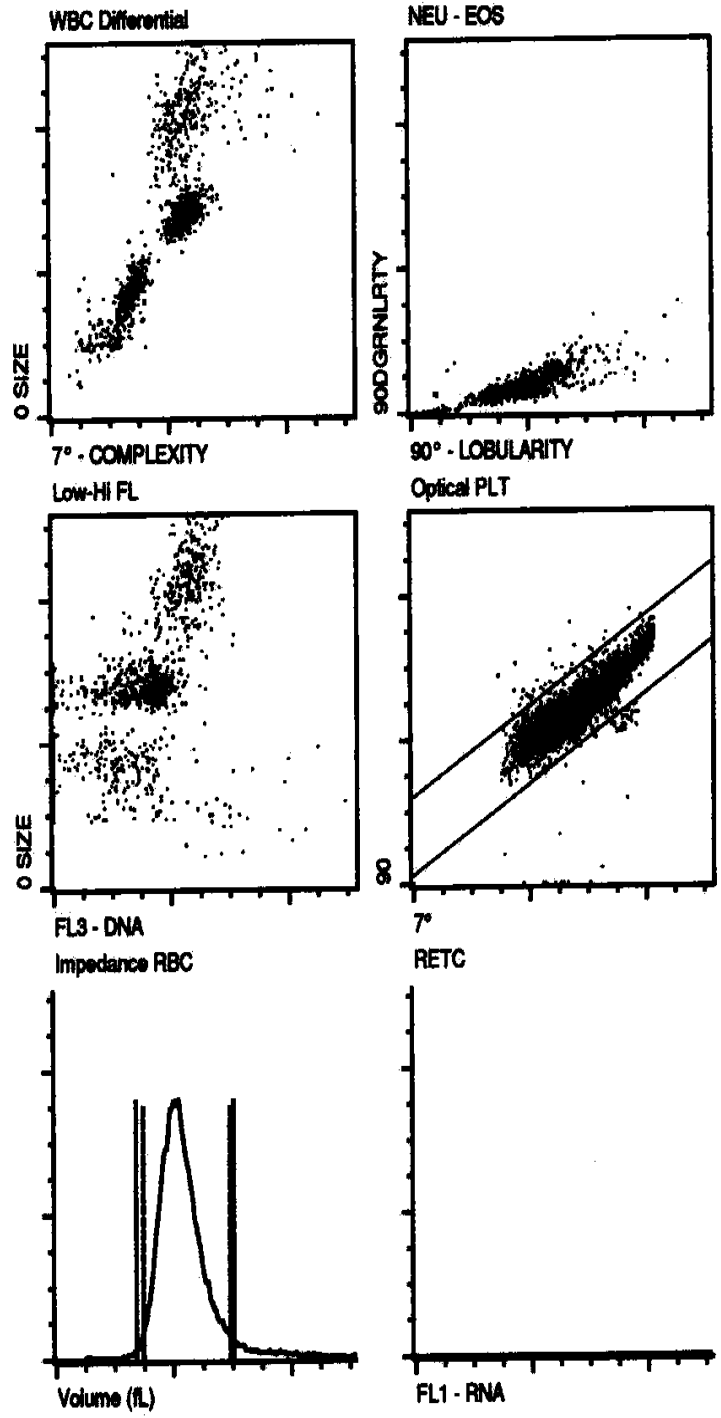
patologický KO

DOB: 19/08/46  
 Sex: M  
 Doctor: 0579/26/04/2011  
 User Defined A:  
 User Defined B:  
 User Defined C:  
 User Defined D:

WBC 1.68 10e9/L ↓  
 NEU 1.15s %N 68.4s  
 LYM .495 %L 29.5  
 MCNO .025 %M 1.49 ✓  
 EOS .007 %E .397  
 BASO .005 %B .298

RBC 3.31 10e12/L ↓  
 HGB 106. g/L  
 HCT .283 L/L ↓  
 MCV 85.4 fL ✓  
 MCH 31.9 pg  
 MCHC 373. g/L  
 RDW 15.1 %CV ↔  
 RETC --- 10e9/L %R ---  
 IRF ---  
 NRBC 0.00 10e9/L NRW 0.00

PLT 58.4 10e9/L ↓  
 MPV 8.47 fL



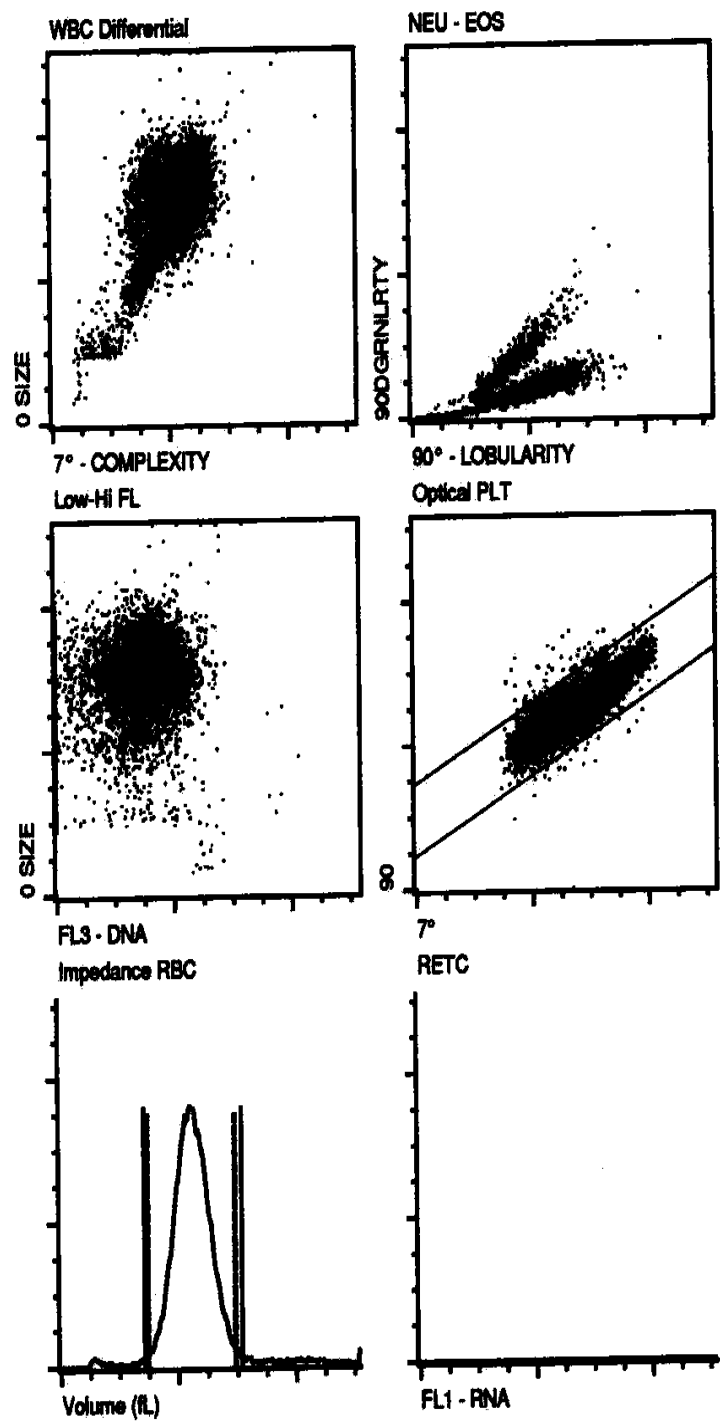
7M

patologický KO

DOB: 13/09/72  
 Sex: M  
 Doctor: 0514/26/04/2011  
 User Defined A:  
 User Defined B:  
 User Defined C:  
 User Defined D:

WBC	<u>15.4</u>	10e9/L	↑	%N	64.6	✓
NEU	<u>9.94</u>			%L	<u>12.2</u>	↓
LYM	1.88			%M	<u>13.1</u>	↑
MONO	<u>2.01</u>			%E	<u>9.94</u>	↑
EOS	<u>1.53</u>			%B	.193	
BASO	.030					

RBC	<u>3.27</u>	10e12/L	↓			
HGB	<u>101</u>	g/L				
HCT	<u>296</u>	L/L				
MCV	90.6	fL				
MCH	30.7	pg				✓
MCHC	339.	g/L				
RDW	13.2	%CV				
RETc	---	10e9/L		%R	---	
IRF	---					
NRBC	0.00	10e9/L		NR/W	0.00	
PLT	<u>832</u>	10e9/L	↑			
MPV	<u>6.88</u>	fL				



9M

patologický KO

WBC 13.00 + [10<sup>9</sup>/L] ↑

WBC IP Message(s)

NEUT	[10 <sup>9</sup> /L]	[%]
LYMPH	[10 <sup>9</sup> /L]	[%]
MONO	[10 <sup>9</sup> /L]	[%]
EO	[10 <sup>9</sup> /L]	[%]
BASO	[10 <sup>9</sup> /L]	[%]
IG	[10 <sup>9</sup> /L]	[%]

RBC	3.01 -	[10 <sup>12</sup> /L]	↓
HGB	89 -	g/L	
HCT	0.267 -	[Ratio]	
MCV	88.7	[fL]	
MCH	29.6	[pg]	✓
MCHC	333	g/L	
RDW-CV	16.2 +	[%]	↑

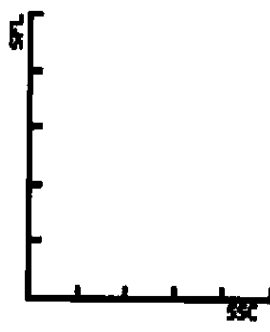
RET	[10 <sup>9</sup> /L]	[%]
IRF	[Ratio]	
RET-He	[pg]	
IPF	[%]	
NRBC	[10 <sup>9</sup> /L]	[/100WBC]

PLT	183 *	[10 <sup>9</sup> /L]	✓
MPV	13.3 *	[fL]	↑
PDW	21.9 *	[fL]	
PCT	0.24 *	[%]	

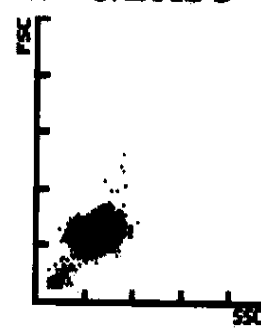
PLT Abn Distribution

PLT Clumps(S)?

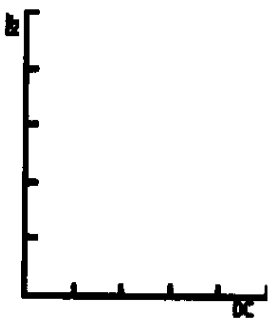
DIFF



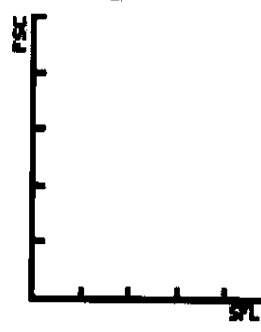
WBC/BASO



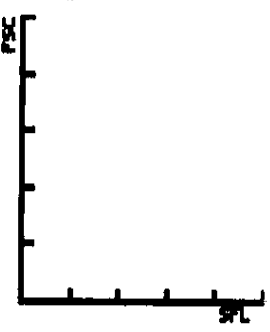
IMI



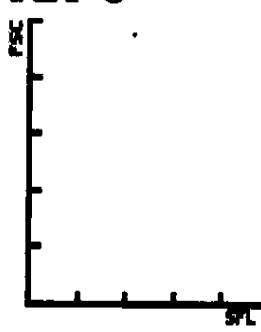
NRBC



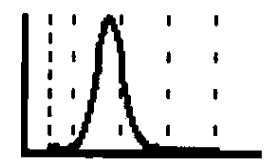
RET



PLT-O



RBC



PLT



10M

patologický KO

Manual Diff

RBC morf.

SEG	_____	META	_____	NORMAL	_____	MICRO	_____
BAND	_____	MYELO	_____	POLYCH	_____	MAKRO	_____
LYMPH	_____	PRO	_____	HYPOCH	_____	ANISO	_____
MONO	_____	BLAST	_____	POIK	_____	BASOtin	_____

WBC	8.07	[10 <sup>9</sup> /L]	✓	WBC IP Message(s)
NEUT	5.80	[10 <sup>9</sup> /L]	71.9	[%]
LYMPH	1.13	[10 <sup>9</sup> /L]	14.0	[%]
MONO	0.96	[10 <sup>9</sup> /L]	11.9	[%]
EO	0.14	[10 <sup>9</sup> /L]	1.7	[%]
BASO	0.04	[10 <sup>9</sup> /L]	0.5	[%]
IG	0.15	[10 <sup>9</sup> /L]	1.9	[%]
RBC	4.67	[10 <sup>12</sup> /L]		
HGB	141	[g/L]		
HCT	0.424	[Ratio]		
MCV	90.8	[fL]	✓	
MCH	30.2	[pg]		
MCHC	333	[g/L]		
RDW-CV	12.7	[%]		
RET		[10 <sup>9</sup> /L]		[%]
IRF		[Ratio]		
NRBC	0.00	[10 <sup>9</sup> /L]	0.0	[/100WBC]
PLT	314	[10 <sup>9</sup> /L]		
MPV	11.0	[fL]	✓	
PDW	13.9	[fL]		
PCT	0.035	[L/L]		

zkontrolovat mikroskopem

Manual Diff

RBC morf.

SEG \_\_\_\_\_ META \_\_\_\_\_ NORMAL \_\_\_\_\_ MICRO \_\_\_\_\_

BAND \_\_\_\_\_ MYELO \_\_\_\_\_ POLYCH \_\_\_\_\_ MAKRO \_\_\_\_\_

LYMPH \_\_\_\_\_ PRO \_\_\_\_\_ HYPOCH \_\_\_\_\_ ANISO \_\_\_\_\_

MONO \_\_\_\_\_ BLAST \_\_\_\_\_ POIK \_\_\_\_\_ BASOtip \_\_\_\_\_

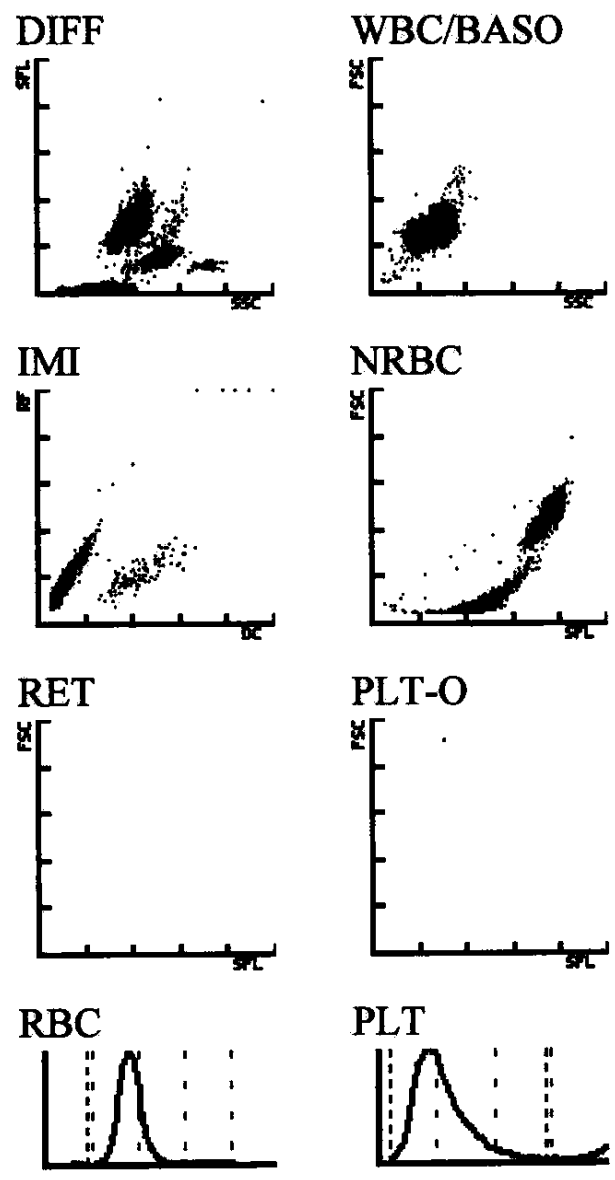
EOSIN \_\_\_\_\_ VARLY \_\_\_\_\_ TARGET \_\_\_\_\_

BASO \_\_\_\_\_ TOXgran \_\_\_\_\_ SPHERO \_\_\_\_\_ NRBC \_\_\_\_\_

PLT EST \_\_\_\_\_ PLT morf \_\_\_\_\_

Comment: \_\_\_\_\_

DIFF by: \_\_\_\_\_ Date: \_\_\_\_\_



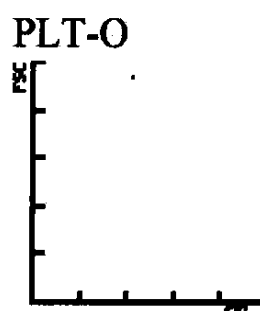
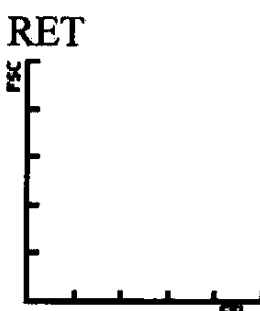
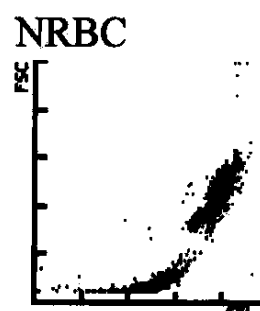
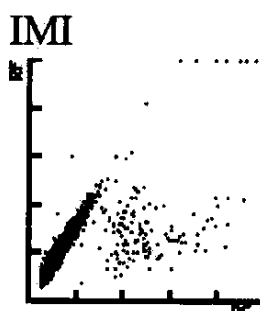
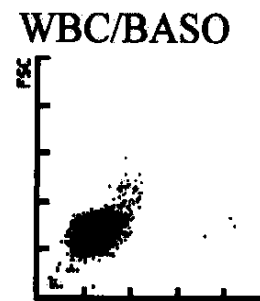
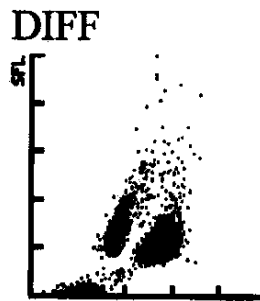
21M

patologický KO



patologický KO

WBC	16.57	+	[10 <sup>9</sup> /L]	↑	WBC IP Message(s)
NEUT	14.92	*	[10 <sup>9</sup> /L]	90.1	*[%]
LYMPH	1.38		[10 <sup>9</sup> /L]	8.3	[%]
MONO	0.24		[10 <sup>9</sup> /L]	1.4	[%]
EO	0.00	*	[10 <sup>9</sup> /L]	0.0	*[%]
BASO	0.03		[10 <sup>9</sup> /L]	0.2	[%]
IG	0.18		[10 <sup>9</sup> /L]	1.1	[%]
RBC	3.71	-	[10 <sup>12</sup> /L]	↓	
HGB	100	-	[g/L]	↓	
HCT	0.324	-	[Ratio]	↓	Anisocytosis
MCV	87.3		[fL]	↓	
MCH	27.0		[pg]	↓	
MCHC	309	-	[g/L]	↓	
RDW-CV	18.5	+	[%]	↑	
RET			[10 <sup>9</sup> /L]		[%]
IRF			[Ratio]		
NRBC	0.00		[10 <sup>9</sup> /L]	0.0	[/100WBC]
PLT	184		[10 <sup>9</sup> /L]		
MPV	9.9		[fL]		
PDW	11.5		[fL]		
PCT	0.018		[L/L]		



zkontrolovat mikroskopem

Manual Diff

RBC morf.

SEG \_\_\_\_\_ META \_\_\_\_\_ NORMAL \_\_\_\_\_ MICRO \_\_\_\_\_

BAND \_\_\_\_\_ MYELO \_\_\_\_\_ POLYCH \_\_\_\_\_ MAKRO \_\_\_\_\_

LYMPH \_\_\_\_\_ PRO \_\_\_\_\_ HYPOCH \_\_\_\_\_ ANISO \_\_\_\_\_

MONO \_\_\_\_\_ BLAST \_\_\_\_\_ POIK \_\_\_\_\_ BASOtip \_\_\_\_\_

EOSIN \_\_\_\_\_ VARLY \_\_\_\_\_ TARGET \_\_\_\_\_

BASO \_\_\_\_\_ TOXgran \_\_\_\_\_ SPHERO \_\_\_\_\_ NRBC \_\_\_\_\_

PLT EST \_\_\_\_\_ PLT morf \_\_\_\_\_

Comment: \_\_\_\_\_

DIFF by: \_\_\_\_\_ Date: \_\_\_\_\_

WBC	4.12	[10 <sup>9</sup> /L]	✓	WBC IP Message(s)
NEUT	1.86	[10 <sup>9</sup> /L]	45.2	[%]
LYMPH	0.67	[10 <sup>9</sup> /L]	16.3	[%]
MONO	1.57	[10 <sup>9</sup> /L]	38.1	[%]
EO	0.01	[10 <sup>9</sup> /L]	0.2	[%]
BASO	0.01	[10 <sup>9</sup> /L]	0.2	[%]
IG	0.18	[10 <sup>9</sup> /L]	4.4	[%]
RBC	3.05	[10 <sup>12</sup> /L]		
HGB	88	[g/L]		
HCT	0.248	[Ratio]		
MCV	81.3	[fL]		
MCH	28.9	[pg]		
MCHC	355	[g/L]	✓	
RDW-CV	12.9	[%]		
RET		[10 <sup>9</sup> /L]		[%]
IRF		[Ratio]		
NRBC	0.00	[10 <sup>9</sup> /L]	0.0	[/100WBC]
PLT	21	[10 <sup>9</sup> /L]		
MPV	11.1	[fL]		
PDW	14.2	[fL]		
PCT	0.002	[L/L]		

Monocytosis ↑  
 IG Present ↑  
 Thrombocytopenia ↓

zkontrolovat mikroskopem

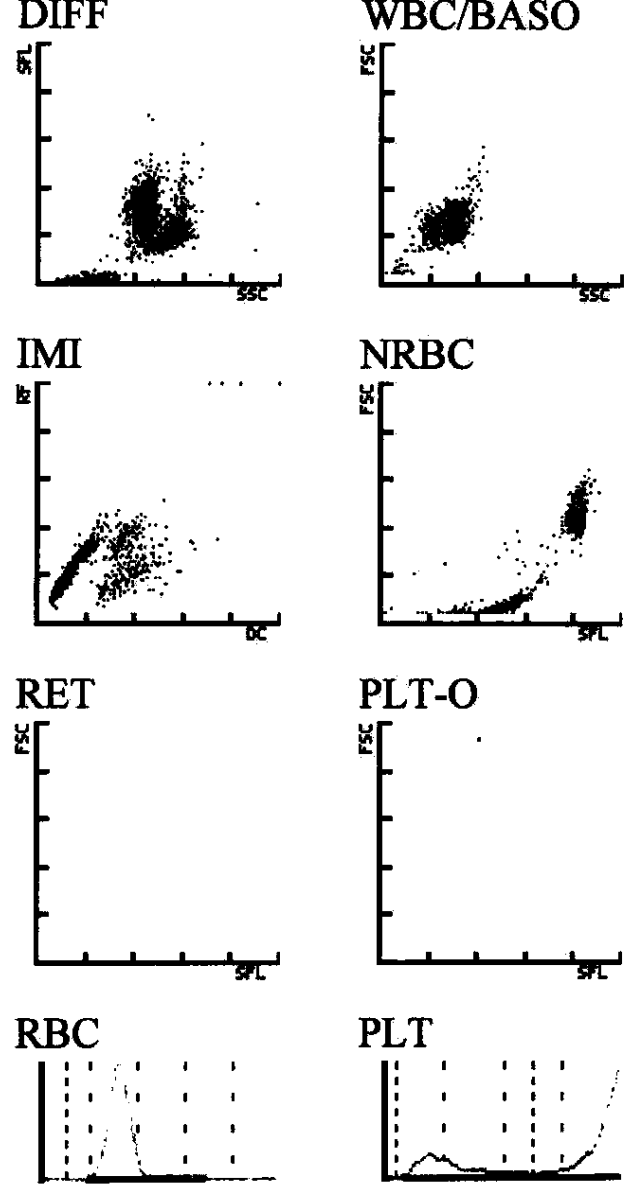
Manual Diff

RBC morf.

SEG \_\_\_\_\_ META \_\_\_\_\_ NORMAL \_\_\_\_\_ MICRO \_\_\_\_\_  
 BAND \_\_\_\_\_ MYELO \_\_\_\_\_ POLYCH \_\_\_\_\_ MAKRO \_\_\_\_\_  
 LYMPH \_\_\_\_\_ PRO \_\_\_\_\_ HYPOCH \_\_\_\_\_ ANISO \_\_\_\_\_  
 MONO \_\_\_\_\_ BLAST \_\_\_\_\_ POIK \_\_\_\_\_ BASOtip \_\_\_\_\_  
 EOSIN \_\_\_\_\_ VARLY \_\_\_\_\_ TARGET \_\_\_\_\_  
 BASO \_\_\_\_\_ TOXgran \_\_\_\_\_ SPHERO \_\_\_\_\_ NRBC \_\_\_\_\_  
 PLT EST \_\_\_\_\_ PLT morf \_\_\_\_\_

Comment: \_\_\_\_\_

DIFF by: \_\_\_\_\_ Date: \_\_\_\_\_



23F

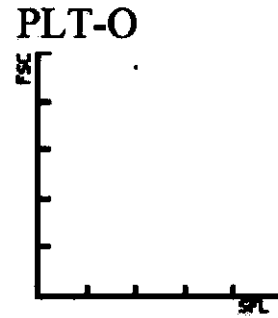
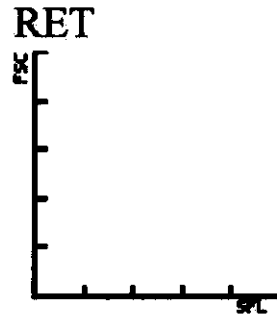
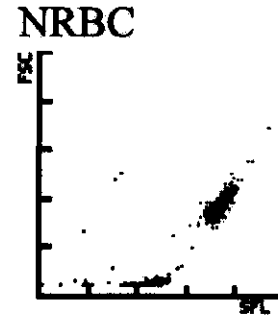
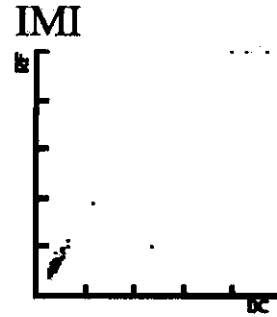
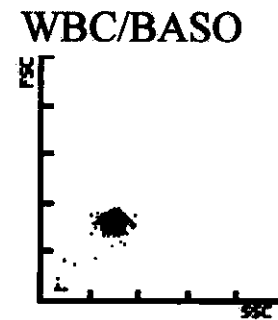
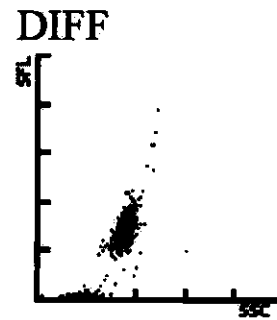
patologický KO



24M

patologický KO

WBC	1.27	-	[10 <sup>9</sup> /L]	↑	WBC IP Message(s)
Lymphocytosis					
NEUT	0.00	-	[10 <sup>9</sup> /L]	0.0	[%]
LYMPH	1.25	-	[10 <sup>9</sup> /L]	98.4	+
MONO	0.02	-	[10 <sup>9</sup> /L]	1.6	[%]
EO	0.00	-	[10 <sup>9</sup> /L]	0.0	[%]
BASO	0.00	-	[10 <sup>9</sup> /L]	0.0	[%]
IG	0.00	-	[10 <sup>9</sup> /L]	0.0	[%]
RBC	2.81	-	[10 <sup>12</sup> /L]		
HGB	89	-	[g/L]		
HCT	0.256	-	[Ratio]		
MCV	91.1		[fL]		
MCH	31.7		[pg]		
MCHC	348		[g/L]		
RDW-CV	17.3	+	[%]		
RET			[10 <sup>9</sup> /L]		[%]
IRF			[Ratio]		
NRBC	0.00	-	[10 <sup>9</sup> /L]	0.0	[/100WBC]
Thrombocytopenia					
PLT	37	-	[10 <sup>9</sup> /L]		
MPV	11.4		[fL]		
PDW	12.3		[fL]		
PCT	0.004	-	[L/L]		



zkontrolovat mikroskopem

Manual Diff

RBC morf.

SEG \_\_\_\_\_ META \_\_\_\_\_ NORMAL \_\_\_\_\_ MICRO \_\_\_\_\_

BAND \_\_\_\_\_ MYELO \_\_\_\_\_ POLYCH \_\_\_\_\_ MAKRO \_\_\_\_\_

LYMPH \_\_\_\_\_ PRO \_\_\_\_\_ HYPOCH \_\_\_\_\_ ANISO \_\_\_\_\_

MONO \_\_\_\_\_ BLAST \_\_\_\_\_ POIK \_\_\_\_\_ BASOtip \_\_\_\_\_

EOSIN \_\_\_\_\_ VARLY \_\_\_\_\_ TARGET \_\_\_\_\_

BASO \_\_\_\_\_ TOXgran \_\_\_\_\_ SPHERO \_\_\_\_\_ NRBC \_\_\_\_\_

PLT EST \_\_\_\_\_ PLT morf \_\_\_\_\_

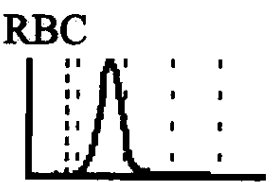
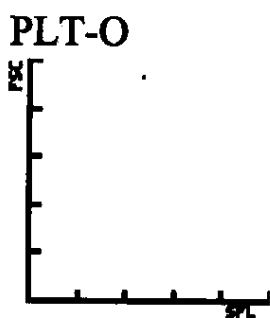
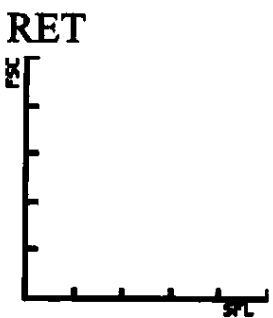
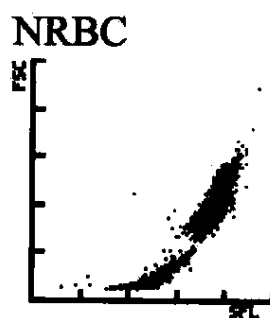
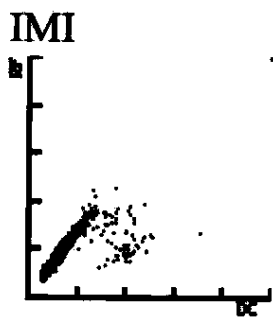
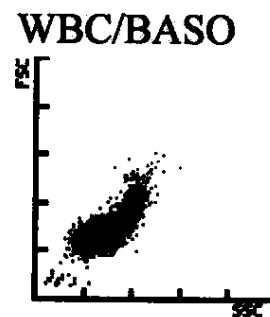
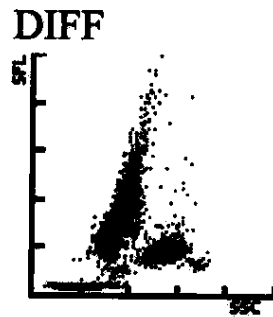
Comment: \_\_\_\_\_

DIFF by: \_\_\_\_\_ Date: \_\_\_\_\_



patologický KO

WBC	7.77	[10 <sup>9</sup> /L]	✓	WBC IP Message(s)
				Lymphocytosis
NEUT	2.26	* [10 <sup>9</sup> /L]	29.1	*[%]
LYMPH	4.46	* [10 <sup>9</sup> /L]	57.4	*[%]
MONO	0.73	* [10 <sup>9</sup> /L]	9.4	*[%]
EO	0.05	[10 <sup>9</sup> /L]	0.6	*[%]
BASO	0.27	+ [10 <sup>9</sup> /L]	3.5	+[%]
IG	0.05	[10 <sup>9</sup> /L]	0.6	[%]
RBC	4.27	[10 <sup>12</sup> /L]		
HGB	124	- [g/L]		
HCT	0.364	- [Ratio]		
MCV	85.2	[fL]		
MCH	29.0	[pg]	✓	
MCHC	341	[g/L]		
RDW-CV	13.1	[%]		
RET		[10 <sup>9</sup> /L]		[%]
IRF		[Ratio]		
RET-He		[pg]		
IPF		[%]		
NRBC	0.00	[10 <sup>9</sup> /L]	0.0	[/100WBC]
PLT	160	[10 <sup>9</sup> /L]		
MPV	10.3	[fL]	✓	
PDW	11.9	- [fL]		
PCT	0.16	[%]		



zkontrolovat mikroskopem

Manual Diff

RBC morf.

SEG \_\_\_\_\_ META \_\_\_\_\_ NORMAL \_\_\_\_\_ MICRO \_\_\_\_\_

BAND \_\_\_\_\_ MYELO \_\_\_\_\_ POLYCH \_\_\_\_\_ MAKRO \_\_\_\_\_

LYMPH \_\_\_\_\_ PRO \_\_\_\_\_ HYPOCH \_\_\_\_\_ ANISO \_\_\_\_\_

MONO \_\_\_\_\_ BLAST \_\_\_\_\_ POIK \_\_\_\_\_ BASOtip \_\_\_\_\_

EOSIN \_\_\_\_\_ VARLY \_\_\_\_\_ TARGET \_\_\_\_\_

BASO \_\_\_\_\_ TOXgran \_\_\_\_\_ SPHERO \_\_\_\_\_ NRBC \_\_\_\_\_

PLT EST \_\_\_\_\_ PLT morf \_\_\_\_\_

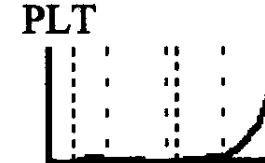
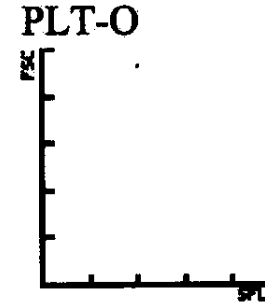
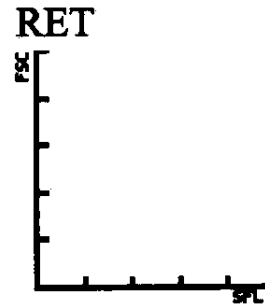
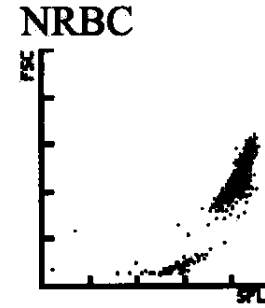
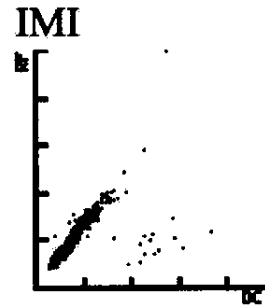
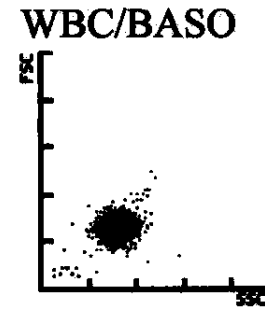
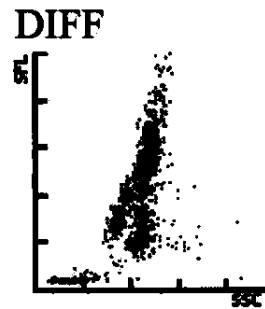
Comment: \_\_\_\_\_

DIFF by: \_\_\_\_\_ Date: \_\_\_\_\_

31M

patologický KO

WBC	1.73	-	[10 <sup>9</sup> /L]	↓	WBC IP Message(s)
NEUT	0.04	*	[10 <sup>9</sup> /L]	2.3	↑ Lymphocytosis
LYMPH	0.87	*	[10 <sup>9</sup> /L]	50.3	↑ Blasts?
MONO	0.82	*	[10 <sup>9</sup> /L]	47.4	↑ Atypical Lympho?
EO	0.00		[10 <sup>9</sup> /L]	0.0	
BASO	0.00		[10 <sup>9</sup> /L]	0.0	
IG	0.00		[10 <sup>9</sup> /L]	0.0	
RBC	2.61	-	[10 <sup>12</sup> /L]	↓	Microcytosis
HGB	74	-	[g/L]		
HCT	0.214	-	[Ratio]		
MCV	82.0	-	[fL]		
MCH	28.4	-	[pg]		
MCHC	346	-	[g/L]	✓	
RDW-CV	14.8	-	[%]		
RET			[10 <sup>9</sup> /L]		[%]
IRF			[Ratio]		
RET-He			[pg]		
IPF			[%]		
NRBC	0.00		[10 <sup>9</sup> /L]	0.0	[/100WBC]
PLT	4	*	[10 <sup>9</sup> /L]	↓	Thrombocytopenia
MPV	8.9	-	[fL]		
PDW	7.5	-	[fL]		
PCT	0.00	-	[%]		



zkontrolovat mikroskopem

Manual Diff

SEG \_\_\_\_\_ META \_\_\_\_\_ NORMAL \_\_\_\_\_ MICRO \_\_\_\_\_

BAND \_\_\_\_\_ MYELO \_\_\_\_\_ POLYCH \_\_\_\_\_ MAKRO \_\_\_\_\_

LYMPH \_\_\_\_\_ PRO \_\_\_\_\_ HYPOCH \_\_\_\_\_ ANISO \_\_\_\_\_

MONO \_\_\_\_\_ BLAST \_\_\_\_\_ POIK \_\_\_\_\_ BASOtip \_\_\_\_\_

EOSIN \_\_\_\_\_ VARLY \_\_\_\_\_ TARGET \_\_\_\_\_

BASO \_\_\_\_\_ TOXgran \_\_\_\_\_ SPHERO \_\_\_\_\_ NRBC \_\_\_\_\_

PLT EST \_\_\_\_\_ PLT morf \_\_\_\_\_

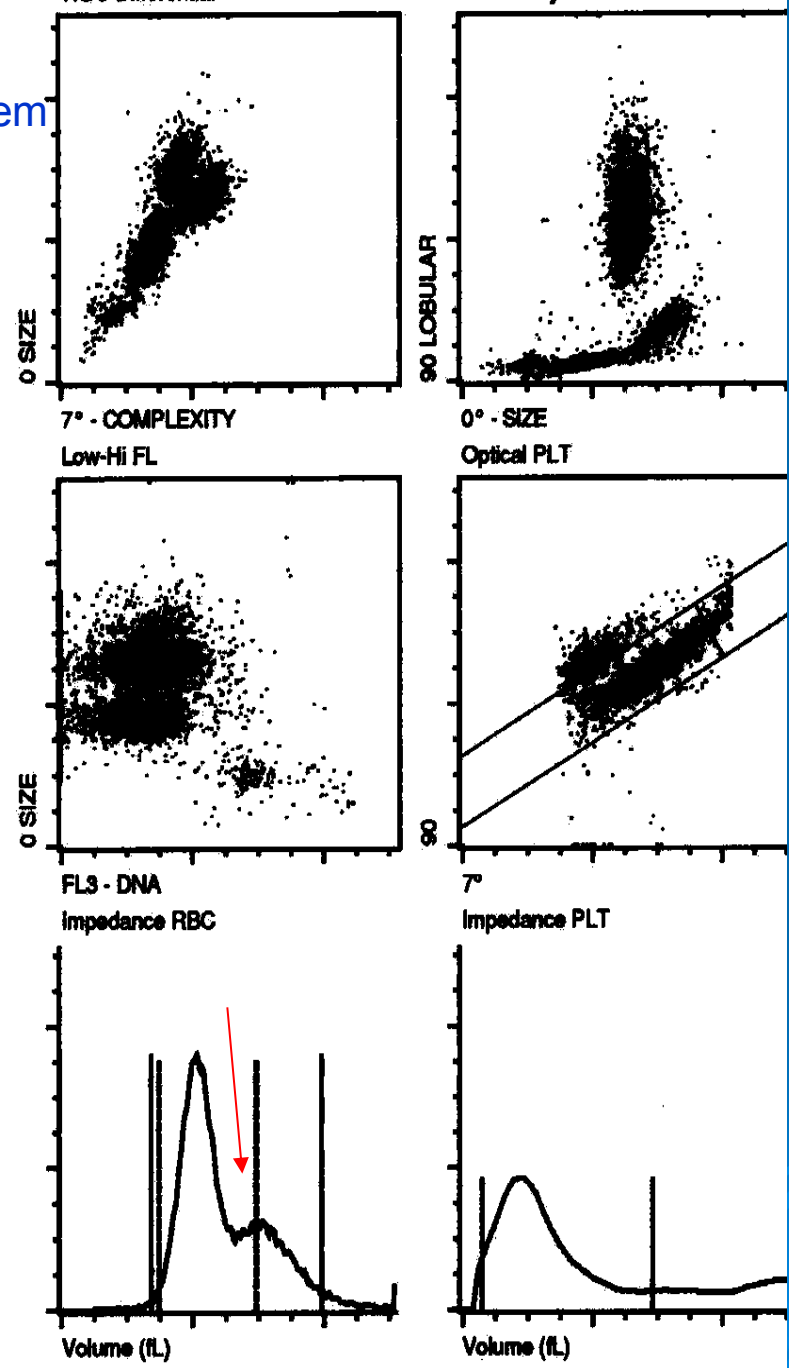
Comment: \_\_\_\_\_

DIFF by: \_\_\_\_\_ Date: \_\_\_\_\_

Doctor:  
 User Defined A:  
 User Defined B: **zkontrolovat mikroskopem**  
 User Defined C:  
 User Defined D:

X-B	WBC	RBC	PLT	RETC	
-	-	-	-	-	*InvalidData
WBC	4.55	10e9/L ✓	WVF	.954	
SEG	1.79		%S	39.3	↓
BAND	0.00		%BD	0.00	
IG	0.00		%IG	0.00	
BLST	0.00		%BL	0.00	
MONE	.431		%Me	9.46	✓
EOS	.028		%E	.623	
BASO	.019		%B	.412	
LYMe	2.29		%Le	50.2	↑ FP?
VARI	0.00		%VL	0.00	
RBC	2.67s	10e12/L ↓	RBCo	2.67	
HGB	92.3	g/L ↓	%MIC	1.55	
HCT	.263s	L/L ↓	%MAC	23.3	ASYM
MCV	98.4s	fL ↑	%HPO	---	
MCH	34.5s	pg ✓	%HPR	---	
MCHC	351.s	g/L ✓			
RDW	24.1s	%CV ↑			
HDW	---	%			
RETC	---	10e9/L	%R	---	
IRF	---				
NRBC	0.00s	10e9/L	NRW	0.00s	
MCVr	---	fL			
MCHr	---	pg			
CHCr	---	g/L			
PLTo	22.4	10e9/L	PLTi	31.8	↓
MPV	11.1*	fL ↔	CD61	---	✓
PDW	13.4*	10(GSD)	PLTs	---	✓
PCT	.247*	mLA	PLTI	---	
%rP	---	%			

Manual Differential	RBC Morphology		
SEG	META	NORMAL	MICRO
BAND	MYELO	POLYCH	MACRO
LYMPH	PRO	HYPOCH	ANISO
MONO	BLAST	POIK	BASOSTIP
EOSIN	VAR LYM	TARGET	



patologický KO

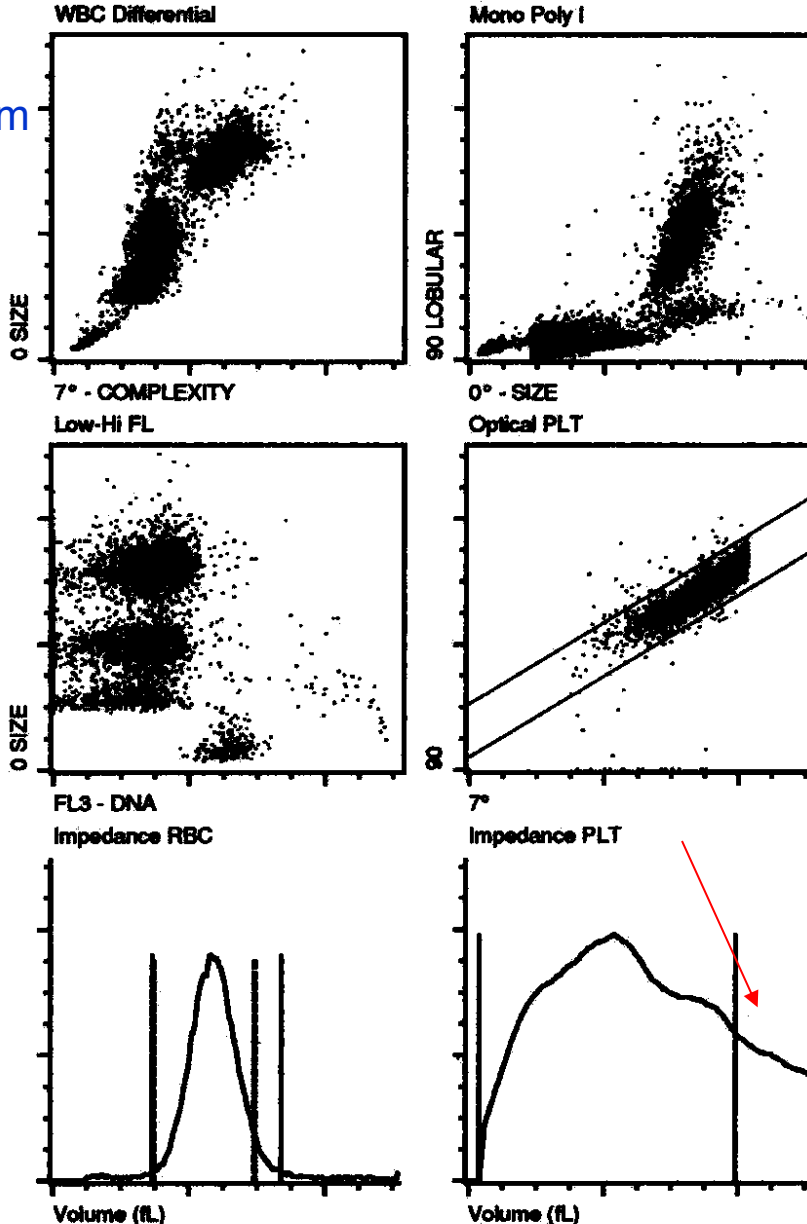
Lower, Upper, or Lower and Upper Region Interference in PLTI Histogram

Sex:  
 Doctor:  
 User Defined A:  
 User Defined B: **zkontrolovat mikroskopem**  
 User Defined C:  
 User Defined D:

X-B WBC RBC PLT RETC

WBC	1.78	10e9/L	↓	WVF	.981
SEG	911			%S	51.3
BAND	0.00			%BD	0.00
IG	0.00			%IG	0.00
BLST	0.00			%BL	0.00
MONE	.116			%Me	6.51
EOS	.015			%E	.827
BASO	.010			%B	.587
LYMe	.724			%Le	40.8
VARI	0.00			%VL	0.00
RBC	3.15	10e12/L	↓	RBCo	3.19
HGB	103.	g/L		%MIC	2.27
HCT	302	L/L	↓	%MAC	5.31
MCV	95.9	fL		%HPO	----
MCH	32.6	pg	✓	%HPR	----
MCHC	340.	g/L			
RDW	14.2	%CV			
HDW	----	%			
RETC	----	10e9/L		%R	----
IRF	----				
NRBC	0.00	10e9/L		NRW	0.00
MCVr	----	fL			
MCHr	----	pg			
CHCr	----	g/l			
PLTo	26.9*	10e9/L	↓	PLTi	63.1*
MPV	15.8*	fL	↑	CD61	83.7
PDW	13.9*	10(GSD)		PLTs	.008
PCT	425*	mL/L		PLTI	24.5
%rP	----	%			

\*InvalidData



Interference with PLT Results Due to PLT Clumping  
 PIC/POC Delta

patologický KO

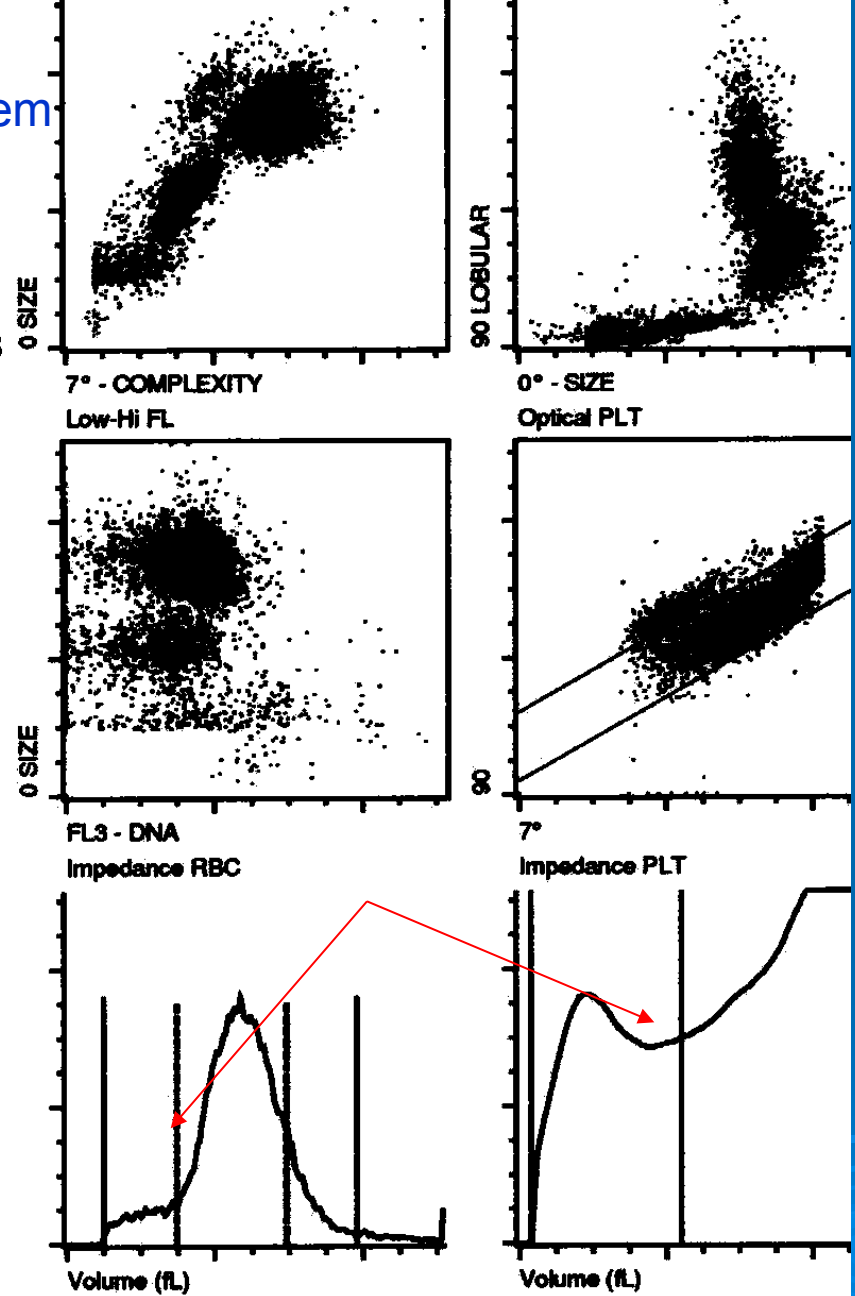
Manual Differential	RBC Morphology		
SEG	META	NORMAL	MICRO
BAND	MYELO	POLYCH	MACRO
LYMPH	PRO	HYPOCH	ANISO
MONO	BLAST	POIK	BASOSTIP
EOSIN	VAR LYM	TARGET	
BASO	TOXGRAN	SPHERO	NRBC
PLT EST		PLT MORPH	

Comment:  
 DIFF by: \_\_\_\_\_ Date: \_\_\_\_\_

User Defined A:  
 User Defined B:  
 User Defined C: **zkontrolovat mikroskopem**  
 User Defined D:

X-B In	WBC In	RBC In	PLT In	RETC In	
WBC	9.61	10e9/L ✓	WVF	.963	*InvalidData ↓
SEG	2.81		%S	29.2	
BAND	0.00		%BD	0.00	
IG	.533		%IG	5.54	IG 0.68
BLST	0.00		%BL	0.00	
MONE	.234		%Me	2.44	
EOS	2.72		%E	28.3	↑
BASO	.148		%B	1.54	
LYMe	3.17		%Le	33.0	✓FP?
VARL	0.00		%VL	0.00	
RBC	3.24	10e12/L ↓	RBCo	3.24	
HGB	97.6	g/L	%MIC	9.42	
HCT	.303	L/L	%MAC	11.9	
MCV	93.3	fL	%HPO	---	
MCH	30.1	pg ✓	%HPR	---	
MCHC	322.	g/L			
RDW	26.4	%CV ↑			
HDW	---	%			
RETC	---	10e9/L	%R	---	
IRF	---				
NRBC	0.00s	10e9/L	NR/W	0.00s	
MCVr	---	fL			
MCHr	---	pg			
CHCr	---	g/L			
PLTo	45.1	10e9/L ↓	PLTi	61.9	
MPV	11.6*	fL	CD61	---	
PDW	20.0*	10(GSD) ↑	PLTs	---	
PCT	.522*	mL/L	PLTI	---	
%rP	---	%			

Manual Differential		RBC Morphology	
SEG	META	NORMAL	MICRO
BAND	MYELO	POLYCH	MACRO
LYMPH	PRO	HYPOCH	ANISO
MONO	BLAST	POIK	BASOSTIP
EOSIN	VAR LYM	TARGET	
BASO	TOXGRAN	SPHERO	NRBC
PLT EST		PIT MORPH	



Lower, Upper, or Lower and Upper Region Interference in PLTi Histogram

39M

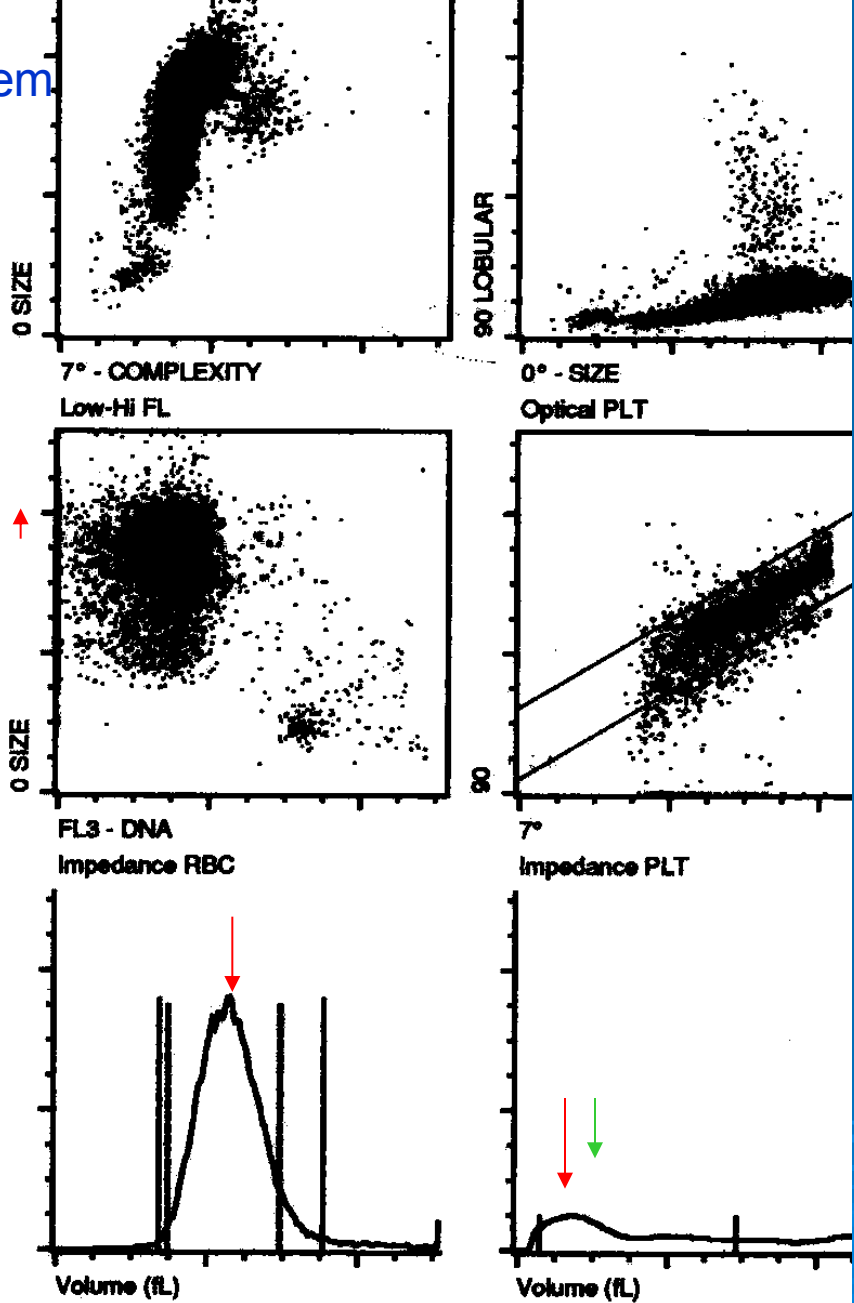
patologický KO

patologický KO

User Defined A:  
 User Defined B:  
 User Defined C: zkontrolovat mikroskopem  
 User Defined D:

X-B In	WBC In	RBC In	PLT In	RETC In	
WBC	18.0	10e9/L ↑	WFV	.980	
SEG	.097		%S	.540 ↓	
BAND	0.00		%BD	0.00	
IG	.011		%IG	.062 ↑	IG 0.54
BLST	10.4*		%BL	57.5*	BLAST 0.90
MONe	4.59*		%Me	25.5*	
EOS	.140		%E	.778	
BASO	0.00		%B	0.00	
LYMe	2.64*		%Le	14.7* ↓	
VARL	.170*		%VL	.944*	VARLYM 0.50 ↑
RBC	3.34	10e12/L	RBCo	3.45	
HGB	110.	g/L	%MIC	1.34	
HCT	.313	L/L	%MAC	7.49	
MCV	93.8	fL	%HPO	---	
MCH	33.0	pg	%HPR	---	
MCHC	352.	g/L			
RDW	17.3	%CV ↑			
HDW	---	%			
RETC	---	10e9/L	%R	---	
IRF	---				
NRBC	.611	10e9/L ↑	NRW	3.39	
MCVr	---	fL			
MCHR	---	pg			
CHCr	---	g/L			
PLTo	5.54	10e9/L ↓	PLTI	---	
MPV	13.6	fL ↑	CD61	---	
PDW	12.2	10(GSD) ✓	PLTs	---	
PCT	.075	mL/L	PLTI	---	
%rP	---	%			

Manual Differential	RBC Morphology		
SEG	META	NORMAL	MICRO
BAND	MYELO	POLYCH	MACRO
LYMPH	PRO	HYPOCH	ANISO
MONO	BLAST	POIK	BASOSTIP
EOSIN	VARLYM	TARGET	
BASO	TOXGRAN	SPHERO	NRBC
PIT EST		PLT MORPH	



Unable to Find Clear Separation Between WBC Subpopulations

Doctor: 0617/13/05/2011

User Defined A:

User Defined B: zkontrolovat mikroskopem

User Defined C:

User Defined D:

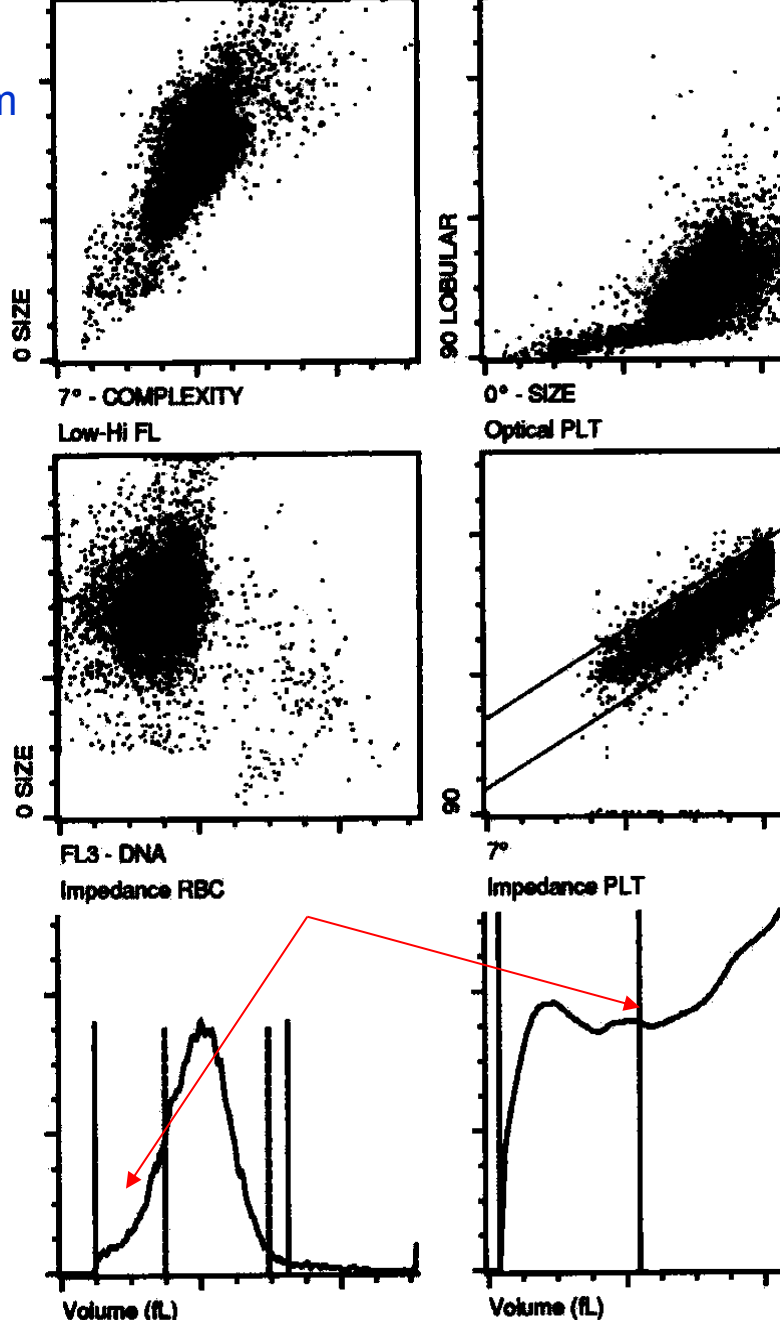
X-B In	WBC In	RBC In	PLT In	RETC In	
WBC	25.6	10e9/L	↑	WVF	.969
SEG	10.0*			%S	39.1*
BAND	3.24*			%BD	12.6*
IG	2.72*			%IG	10.6*
BLST	.006*			%BL	.023*
MCNe	4.08*			%Me	15.9*
EOS	.046*			%E	.180*
BASO	.054*			%B	.211*
LYMe	5.45*			%Le	21.3*
VARL	0.00*			%VL	0.00*

RBC	3.52	10e12/L	RBCo	3.55	
HGB	91.9	g/L	%MIC	18.8	
HCT	.273	L/L	%MAC	1.71	
MCV	77.6	fL	%HPO	---	
MCH	26.1	pg	%HPR	---	
MCHC	336.	g/L			
RDW	26.0	↑	%CV		
HDW	---	%			
RETC	---	10e9/L	%R	---	
IRF	---				
NRBC	.162	10e9/L	NR/W	.633	
MCVr	---	fL			
MCHr	---	pg			
CHCr	---	g/L			
PLTo	53.7*	↓	10e9/L	PLTi	88.6*
MPV	18.3*	↑	fL	CD61	---
PDW	10.1*	10(GSD)	✓	PLTs	---
PCT	.982*	mL/L	PLTI	---	
%rP	---	%			

Manual Differential	RBC Morphology		
SEG	META	NORMAL	MICRO
BAND	MYELO	POLYCH	MACRO
LYMPH	PRO	HYPOCH	ANISO
MONO	BLAST	POIK	BASOSTIP
EOSIN	VAR LYM	TARGET	
BASO	TOXGRAN	SPHERO	NRBC

\*InvalidData

BAND	0.87
IG	0.90
BLAST	0.90



Unable to Find Clear Separation Between WBC Subpopulations  
PIC/POC Delta

48M

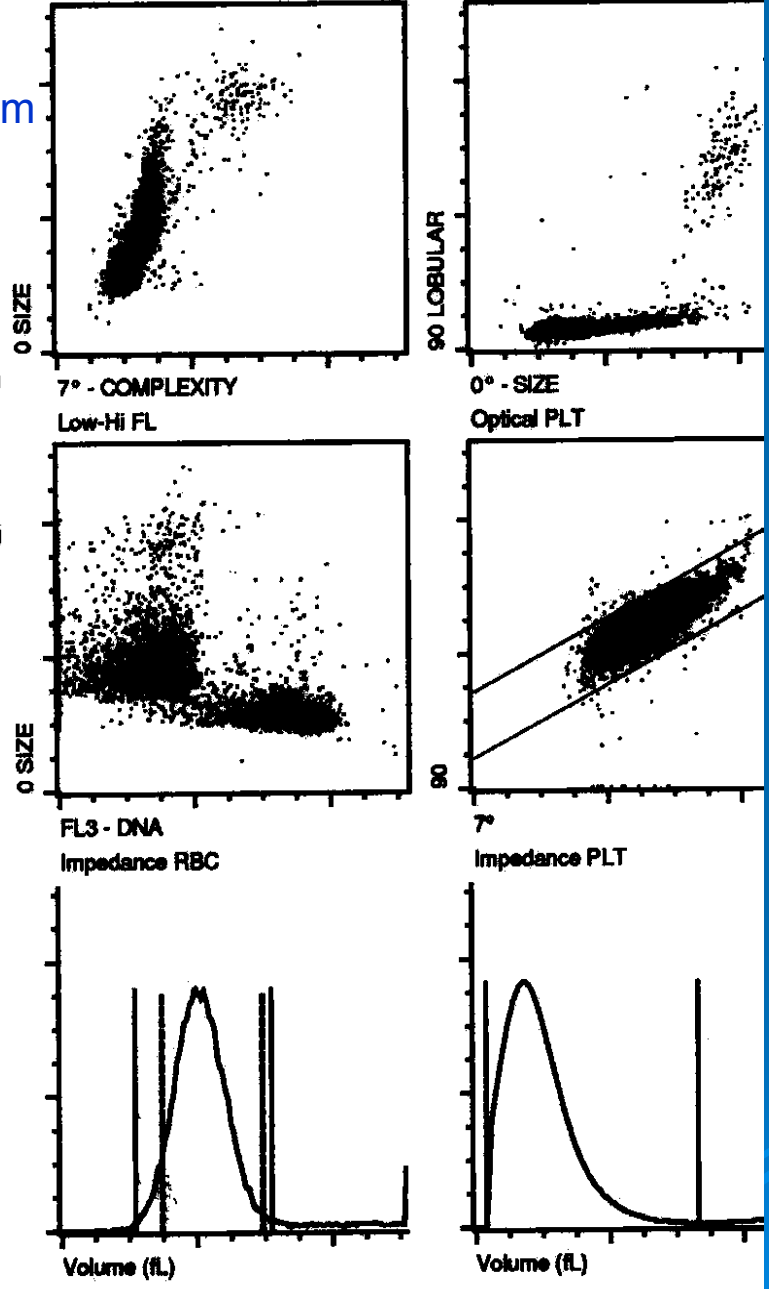
patologický KO

zkontrolovat mikroskopem

patologický KO

Sex:  
 Doctor:  
 User Defined A:  
 User Defined B:  
 User Defined C:  
 User Defined D:

X-B	WBC	RBC	PLT	RETC	
WBC	120	10e9/L	↑	WVF	.613
SEG	3.59			%S	2.98
BAND	0.00			%BD	0.00
IG	0.00			%IG	0.00
BLST	.018			%BL	.015
MONe	4.12			%Me	3.42
EOS	.036			%E	.030
BASO	.405			%B	.336
LYMe	66.5			%Le	55.2
VARL	45.9			%VL	38.1
				VARLYM	0.90
RBC	3.53	10e12/L	↓	RBCo	3.48
HGB	96.2	g/L		%MIC	6.70
HCT	292	L/L		%MAC	1.56
MCV	82.7	fL		%HPO	14.7
MCH	27.2	pg		%HPR	.181
MCHC	329	g/L			
RDW	17.9	%CV	↑		
HDW	10.0	%			
RETC	69.0	10e9/L	✓	%R	1.95
IRF	.363	↑			
NRBC	0.00	10e9/L		NRW	0.00
MCVr	92.7	fL			
MCHr	26.6	pg			
CHCr	284	g/l			
PLTo	180	10e9/L		PLTi	185
MPV	6.67	fL		CD61	---
PDW	16.4	10(GSD)		PLTs	---
PCT	1.20	mL/L		PLTI	---
%rP	12.2	%			



Manual Differential	RBC Morphology		
SEG	META	NORMAL	MICRO
BAND	MYELO	POLYCH	MACRO
LYMPH	PRO	HYPOCH	ANISO
MONO	BLAST	POIK	BASOSTIP
EOSIN	VAR LYM	TARGET	
BASO	TOXGRAN	SPHERO	NBCC
PIT EST		PIT MORPH	



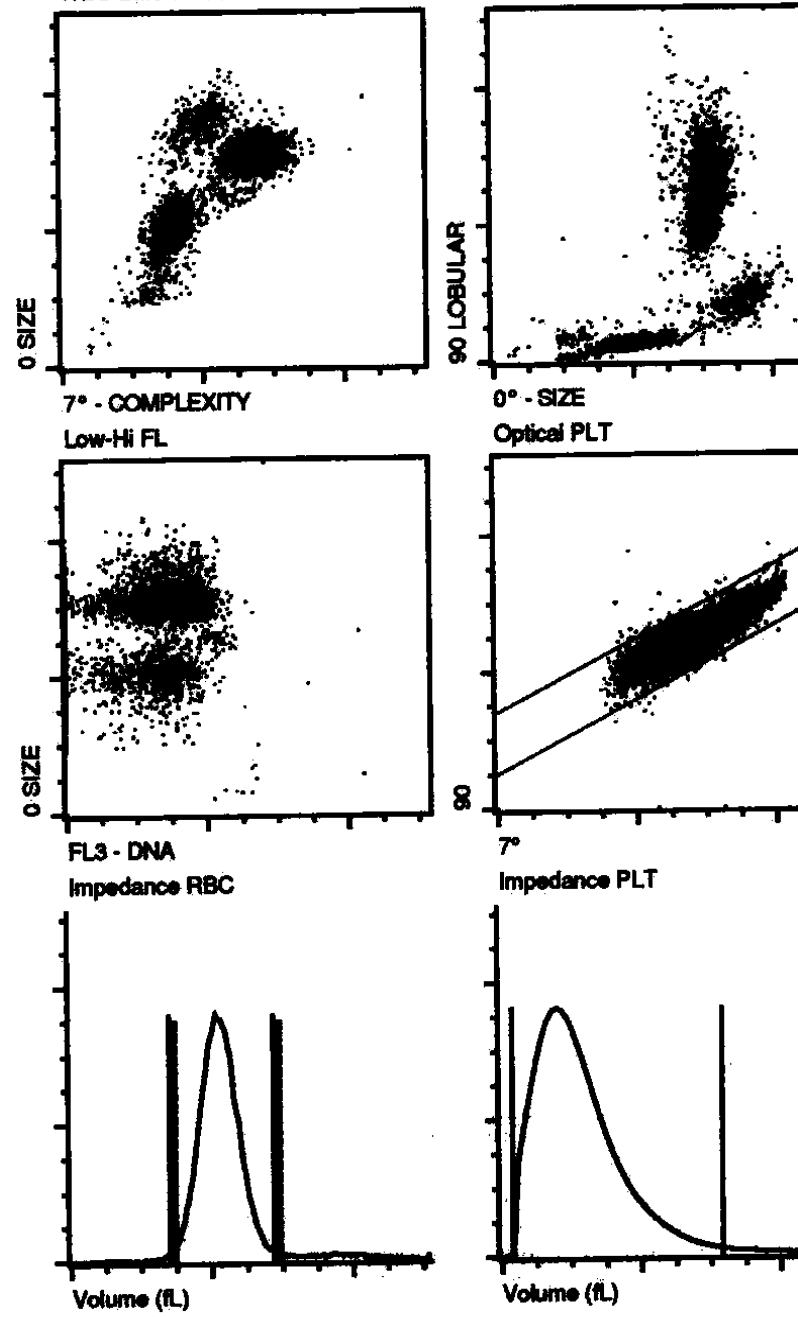
Sex: F  
 Doctor: 0630/12/05/2011  
 User Defined A:  
 User Defined B:  
 User Defined C:  
 User Defined D:

50F

X-B In	WBC In	RBC In	PLT In	RETC In
WBC	6.32	10e9/L	WVF	.995
SEG	3.69		%S	58.5
BAND	0.00		%BD	0.00
IG	0.00		%IG	0.00
BLST	0.00		%BL	0.00
MONe	.557		%Me	8.81
EOS	.118		%E	1.87
BASO	.040		%B	.631
LYMe	1.91		%Le	30.2
VARL	0.00		%VL	0.00
RBC	4.58	10e12/L	RBCo	4.45
HGB	131.	g/L	%MIC	1.54
HCT	.391	L/L	%MAC	.982
MCV	85.4	fL	%HPO	3.84
MCH	28.7	pg	%HPR	0.00
MCHC	336.	g/L		
RDW	12.5	%CV		
HDW	6.52	%		
RETC	60.7	10e9/L ✓	%R	1.33
IRF	.221			
NRBC	0.00	10e9/L	NR/W	0.00
MCVr	93.2	fL		
MCHr	27.5	pg		
CHCr	292.	g/L		
PLTo	267.	10e9/L	PLTi	265.
MPV	7.20	fL	CD61	----
PDW	17.3	10(GSD)	PLTs	----
PCT	1.93	mL/L	PLTI	----
%rP	.619	%		



Manual Differential	RBC Morphology		
SEG	META	NORMAL	MICRO
BAND	MYELO	POLYCH	MACRO
LYMPH	PRO	HYPOCH	ANISO
MONO	BLAST	POIK	BASOSTIP
EOSIN	VAR LYM	TARGET	
BASO	TOXGRAN	SPHERO	NRBC



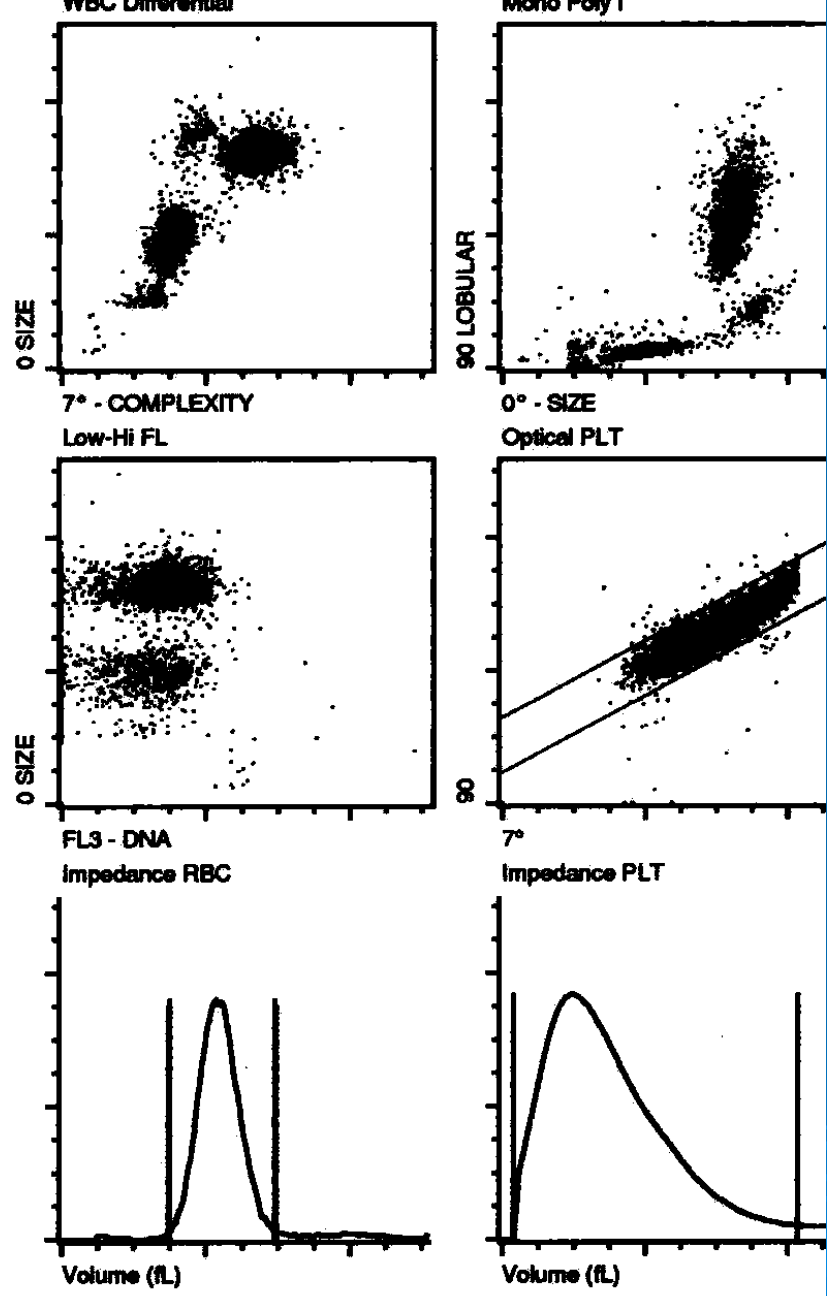
KO v normě



Sex: F  
 Doctor: 0610/12/05/2011  
 User Defined A:  
 User Defined B:  
 User Defined C:  
 User Defined D:

X-B In	WBC In	RBC In	PLT In	RETC In
WBC	4.42	10e9/L	WVF	.996
SEG	2.47		%S	56.0
BAND	0.00		%BD	0.00
IG	0.00		%IG	0.00
BLST	0.00		%BL	0.00
MONe	.238		%Me	5.38
EOS	.024		%E	.542
BASO	.031		%B	.697
LYMe	1.65		%Le	37.4
VARL	0.00		%VL	0.00
RBC	4.53	10e12/L	RBCo	4.44
HGB	138.	g/L	%MIC	1.10
HCT	.401	L/L	%MAC	1.05
MCV	88.5	fL	%HPO	.424
MCH	30.4	pg	%HPR	.013
MCHC	344.	g/L		
RDW	12.3	%CV		
HDW	7.01	%		
RETC	45.8	10e9/L	%R	1.01
IRF	.105			
NRBC	0.00	10e9/L	NR/W	0.00
MCVr	97.3	fL		
MCHr	30.4	pg		
CHCr	310.	g/L		
PLTo	197.	10e9/L	PLTi	196.
MPV	9.81	fL	CD61	----
PDW	17.6	10(GSD)	PLTs	----
PCT	1.94	mL/L	PLTI	----
%rP	.143	%		

Manual Differential	RBC Morphology		
SEG	META	NORMAL	MICRO
BAND	MYELO	POLYCH	MACRO
LYMPH	PRO	HYPOCH	ANISO
MONO	BLAST	POIK	BASOSTIP
EOSIN	VAR LYM	TARGET	
BASO	TOXGRAN	SPHERO	NRBC
PLT EST		PLT MORPH	



53F

KO v normě