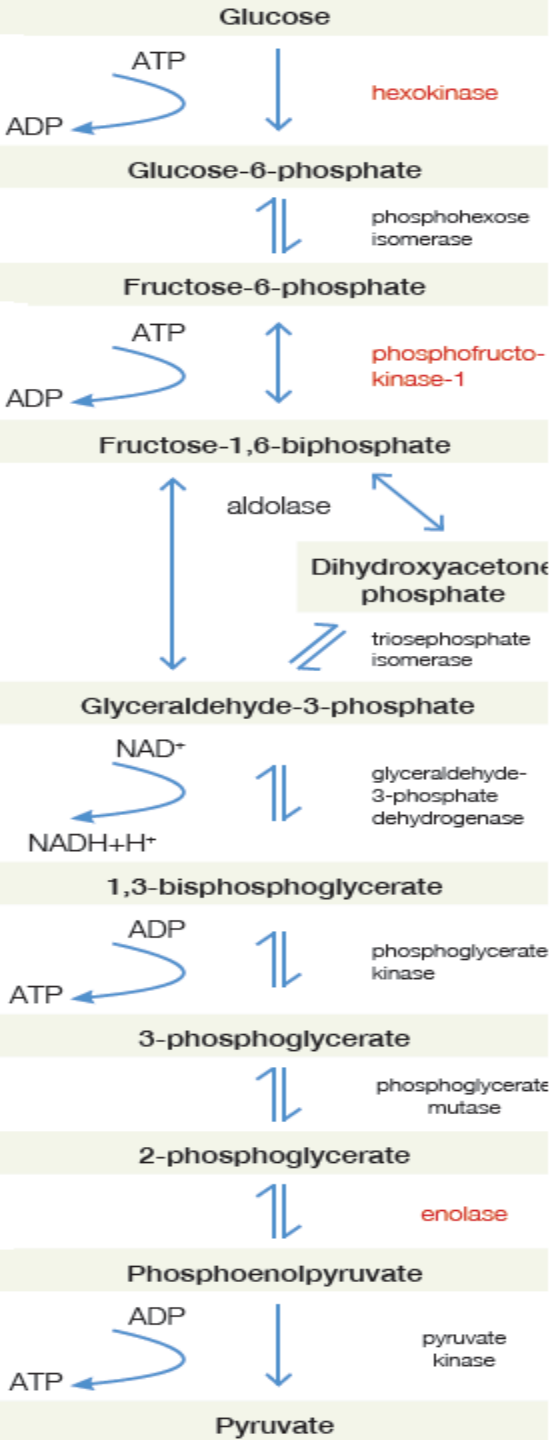


Stabilnost laktata u uzorku plazme

Ivana Rako, Ana Mlinarić, Gordana Fressl-Juroš, Dunja Rogić
Klinički zavod za laboratorijsku dijagnostiku, KBC Zagreb





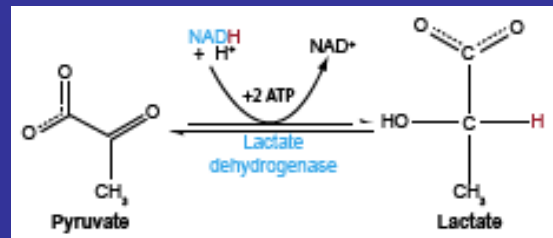
- sobna temperatura
- bez stabilizatora

Porast laktata

0,01-0,02 mmol/L u minuti
(0,6 -0,7 mmol/L na sat)

ODREDITI KONCENTRACIJU LAKTATA
UNUTAR 15 MINUTA OD UZORKOVANJA
(CLSI: Blood gas and pH Analysis and
Related Measurements; Approved
Guideline – Second Edition, 2009)

anaerobni
metabolizam



PRIJEANALITIČKI UVJETI



- Na led odmah po uzorkovanju
Seymour at al. BMC Research Notes 2011, 4:169



- Cfg unutar 15 min i odvojiti od stanica
Westgard JO at al. Clin Chem, Vol. 18, No. 11,1972

- Koristiti stabilizator (NaF, KOX) i cfg unutar 15-30min (odvajanje od stanica i temperatura nemaju značajnog utjecaja na rezultat)
Astles R at al. Clin Chem, Vol. 40, No. 7,1994



4 sata gladovanja

**52 BOLESNIKA – Klinika za torakalnu kirurgiju
(tkivna hipoperfuzija, hipooksigenacija, hipoksija)**

Li-heparin

Cfg 10 min/2000 g

**plazma (aliquot 300 µl) +
plazma na stanicama**

na +4°C do analize



NaF/K3EDTA

Cfg 10 min/2000 g

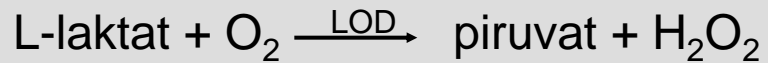
plazma

na +4°C do analize

1,5h

Analitička metoda

Cobas c501, Roche : enzimatska, kolorimetrijska



Referentni interval 0,5 – 2,2 mmol/L

CVa 1,5%

Bias -1,0%

Cilj



Koncentracija
laktata?

Statistički/klinički značajna razlika?

VS



Rezultati

Alikvot Li-heparin vs NaF

Wilcoxon test (paired samples)

Sample 1	
Variable	AHP (ALIKVOT)
Sample 2	
Variable	NaFP

	Sample 1	Sample 2
Sample size	52	52
Lowest value	0,4500	0,3400
Highest value	5,2100	5,4900
Median	1,1700	1,0150
95% CI for the median	1,0887 to 1,2575	0,8725 to 1,1300

Number of positive differences	2
Number of negative differences	49
Two-tailed probability	P < 0,0001

Li-heparin vs NaF

Wilcoxon test (paired samples)

Sample 1	
Variable	HP
Sample 2	
Variable	NaFP

	Sample 1	Sample 2
Sample size	52	52
Lowest value	0,5100	0,3400
Highest value	5,6600	5,4900
Median	1,3850	1,0150
95% CI for the median	1,2800 to 1,5875	0,8725 to 1,1300

Number of positive differences	0
Number of negative differences	52
Two-tailed probability	P < 0,0001

Passing and Bablok regression

Variable X	NAFP
Variable Y	AHP (ALIKVOT)
Sample size	52

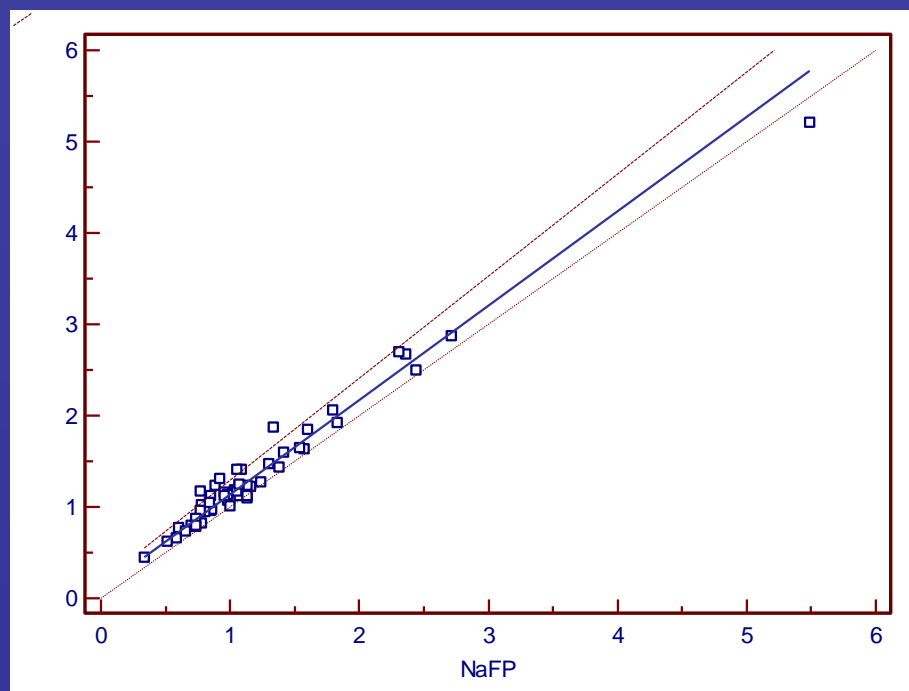
	Variable X	Variable Y
Lowest value	0,3400	0,4500
Highest value	5,4900	5,2100
Arithmetic mean	1,2079	1,3648
Median	1,0150	1,1700
Standard deviation	0,7827	0,7564
Standard error of the mean	0,1085	0,1049

$$y = 0,1005 + 1,0342 x$$

Intercept A	0,1005
95% CI	0,01813 to 0,1630
Slope B	1,0342
95% CI	0,9686 to 1,1203
Cusum test for linearity	No significant deviation from linearity (P>0.10)

**NEMA KLINIČKI ZNAČAJNE
RAZLIKE**

Alikvot Li-heparin vs NaFP



LAKTAT

CVintra 27,7%

CVinter 16,7%

Index individualnosti 1,7

Passing and Bablok regression

Variable X	NAFP
Variable Y	HP

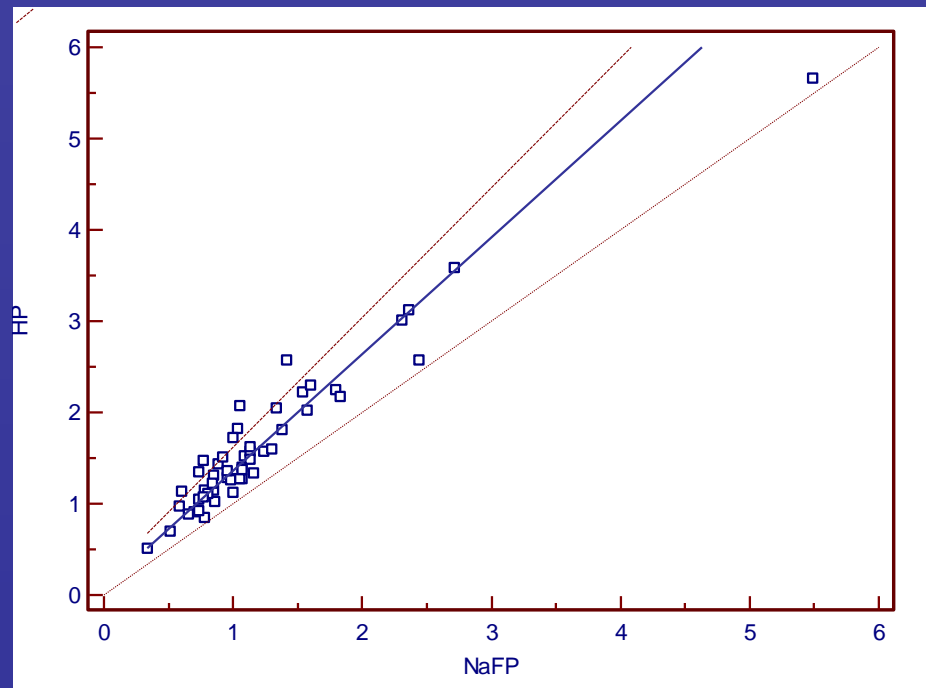
Sample size	52
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	Variable X	Variable Y
Lowest value	0,3400	0,5100
Highest value	5,4900	5,6600
Arithmetic mean	1,2079	1,6367
Median	1,0150	1,3850
Standard deviation	0,7827	0,8450
Standard error of the mean	0,1085	0,1172

$$y = 0,0744 + 1,2800 x$$

Intercept A	0,0744
95% CI	-0,0450 to 0,1974
Slope B	1,2800
95% CI	1,1569 to 1,4200
Cusum test for linearity	No significant deviation from linearity (P>0.10)

Li-heparin vs NaFP



**KLINIČKI ZNAČAJNA
RAZLIKA**

Zaključak

Alikvot HP:

- ✓ prihvatljiv za određivanje koncentracije laktata u plazmi uz zadovoljene prijeanalitičke zahtjeve (HP)
- ✓ pokazuje prihvatljivo odstupanje rezultata u odnosu na preporučeno uzorkovanje krvi (HP)

