

**Comenius University in Bratislava, Faculty of Medicine**  
**Institute of Medical Chemistry, Biochemistry and Clinical Biochemistry**

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LABORATORY PROTOCOL SS02

**Determination of uric acid concentration in blood serum and urine**

Name, group:	Date:
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Principle:

Uric acid in presence of sodium glycinate reduces phosphotungstic acid reagent giving blue colored complex.

Procedure:

	S <sub>1</sub>	S <sub>2</sub>	U <sub>1</sub>	U <sub>2</sub>	standard	ref. sample
serum 1 (1:10)	2,0 ml	---	---	---	---	---
serum 2 (1:10)	---	2,0 ml	---	---	---	---
urine 1 (1:100)	---	---	2,0 ml	---	---	---
urine 2 (1:100)	---	---	---	2,0 ml	---	---
standard sol. (15 µmol/l)	---	---	---	---	2,0 ml	---
water	---	---	---	---	---	2,0 ml
glycinate buffer	0,4 ml	0,4 ml	0,4 ml	0,4 ml	0,4 ml	0,4 ml
phosphotungstic acid reagent	0,1 ml	0,1 ml	0,1 ml	0,1 ml	0,1 ml	0,1 ml

We let the samples stand for 10 minutes and measure absorbance at 710 nm.

Calculation:

Diuresis: patient 1: 0,9 l/24 hours, patient 2: 1,2 l/24 hours

	Patient 1		Patient 2		standard
	S <sub>1</sub>	U <sub>1</sub>	S <sub>2</sub>	U <sub>2</sub>	
absorbance					
concentration (µmol/l)					15
correction for dilution					---
excretion (mmol/24 hours)	---		---		---

Reference values:

	men	women
uric acid in serum	200 – 420 µmol/l	140 – 340 µmol/l
uric acid in urine	1,5 – 4,5 mmol/24 hours	

Conclusion:

**Next week:**

- New topic – regulation of gene expression. Basis of molecular biology – replication, transcription, translation.

**Literature:** Lippincott's Biochemistry – chapters – 29, 30 and 32