Uric Acid Microplate Assay Kit

User Manual

Catalog # FTA0057

(Version 1.3C)

Detection and Quantification of Uric Acid (UA) Content in Urine, Serum, Plasma, Other biological fluids Samples.

For research use only. Not for diagnostic or therapeutic procedures.

I. INTRODUCTION

In humans and primates, uric acid is the end product of purine metabolism. It is produced by the oxidation of xanthine and hypoxanthine by xanthine oxidase and excreted in urine. High serum levels of uric acid, hyperuricemia, are associated with insulin resistance, cardiovascular disease, and gout. The mechanisms leading to hyperuricemia are typically either increased uric acid production or decreased urine excretion. Increased serum uric acid may be a marker of renal disease.

The assay is initiated with the enzymatic catalysis of the uric acid by uricase. The enzyme catalysed reaction products quinone can be measured at a colorimetric readout at 550 nm.

II. KIT COMPONENTS

Component	Volume	Storage
96-Well Microplate	1 plate	
Diluent	20 ml x 1	4 °C
Enzyme	Powder x 1	-20 °C, keep in dark
Dye Reagent	Powder x 1	-20 °C, keep in dark
Standard (4 mmol/L)	1 ml x 1	4 °C
Plate Adhesive Strips	3 Strips	
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Note:

Enzyme: add 10 ml Diluent to dissolve before use.

Dye Reagent: add 10 ml Diluent to dissolve before use.

III. MATERIALS REQUIRED BUT NOT PROVIDED

1. Microplate reader to read absorbance at 550 nm
2. Distilled water
3. Pipettor, multi-channel pipettor
4. Pipette tips
5. Mortar
6. Centrifuge
7. Timer
8. Ice

IV. SAMPLE PREPARATION

1. For urine, serum or plasma samples

Detect directly.

V. ASSAY PROCEDURE

Warm all reagents to room temperature before use.

Add following reagents into the microplate:

Reagent	Standard	Blank	Sample
Enzyme	100 µl	100 µl	100 µl
Dye Reagent	100 µl	100 µl	100 µl
Standard	10 µl	--	--
Distilled water	--	10 µl	--
Sample	--	--	10 µl
Mix, put it in the oven, 37 °C for 15 minutes, measured at 550 nm and record the absorbance.			

Note:

1) Perform 2-fold serial dilutions of the top standards to make the standard curve.

2) The concentrations can vary over a wide range depending on the different samples. For unknown samples, we recommend doing a pilot experiment & testing several doses to ensure the readings are within the standard curve range.

VI. CALCULATION

1. According to the volume of serum or plasma

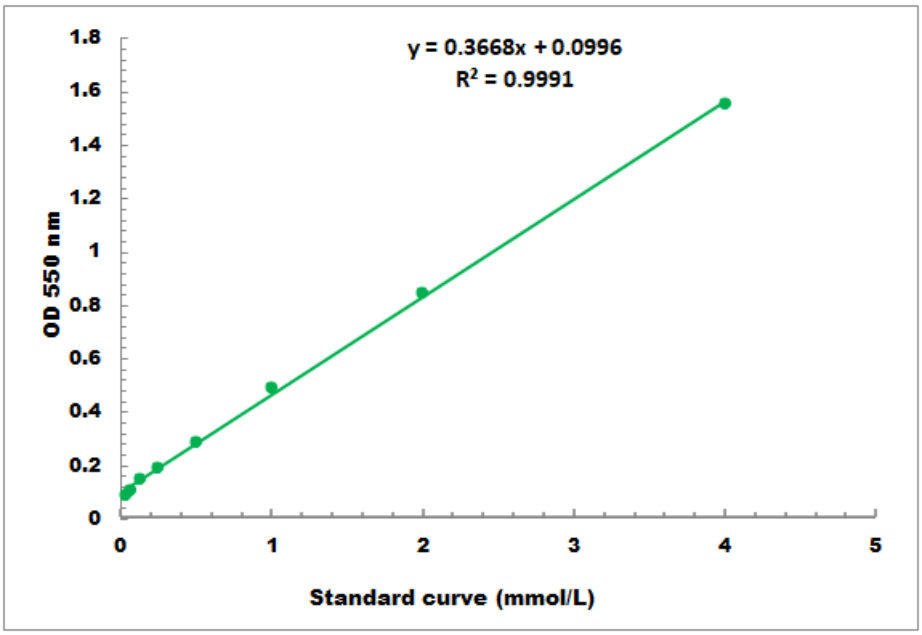
$UA\ (mmol/L) = (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank}) \times C_{Standard}$

$= 4 \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank})$

$C_{Standard}$: the Standard concentration, 4 mmol/L.

VII. TYPICAL DATA

The standard curve is for demonstration only. A standard curve must be run with each assay.



Detection Range: 0.04 mmol/L - 4 mmol/L

VIII. TECHNICAL SUPPORT

For troubleshooting, information or assistance, please go online to www.cohesionbio.com or contact us at techsupport@cohesionbio.com

IX. NOTES