XILOSE U.V.

Enzymatic U.V. determination of Xilose in urine and serum

TEST SUMMARY
Glucose present in the sample reacts with Glucose dehydrogenase (very specific for glucose) and with NAD forming NADH.
When reaction happens, add a different glucose dehydrogenase that shows activity even towards the xilose.
Increase of absorbance after addiction of the second glucose dehydrogenase is directly proportional to the concentration of xilose in the sample.

SAMPLE
Urine. Stability 1 day at 2-8°C.
Serum. Stability 3 days at 2-8°C.

REAGENTS
Reagent A	Tris buffer, stabilizers glucose dehydrogenase and preservatives.
Reagent B	NAD stabilizers and preservatives.
Reagent C	Glucose dehydrogenase
Standard	Xilose 40 mg/dl stabilizers and preservatives.

MATERIAL REQUIRED BUT NOT SUPPLIED
Normal laboratory equipment. Spectrophotometer UV/VIS with thermostatation. Automatic Micropipette. Cuvette in optical glass or monouse in optical polystyrene. Distilled water.

PRECAUTIONS
Reagent may contain not reactive and conservative components. It is opportune to avoid contacts with the skin and do not swallow.
Perform the test according to the general "Good Laboratory Practice" (GLP) guidelines.

REAGENTS PREPARATION
Reconstitute Reagent C with 1 ml of distilled water.
Reagent A and Reagent B are supplied ready to use and can be used separately; it is also possible premix (4 parts +1 part). Work Reagent is stable 60 days at 2-8°C. Reagent C reconstituted is stable 30 days at 2-8°C.

SAMPLE PREPARATION
If the sample would be particularly turbid, centrifuge it.

PROCEDURE
Kind of analysis:	Kinetic
Reading time:	5 minutes
Wavelength:	340 nm (335-365)
Temperature:	37°C
Zero:	Reagent Blank

Reagents	Blank	Standard	Sample
Distilled water	8 µl	--	--
Standard	--	8 µl	--
Sample	--	--	8 µl
Reagent A	400 µl	400 µl	400 µl
Reagent B	100 µl	100 µl	100 µl
Incubate at 37°C for 7 minutes			
Reagent C	50 µl	50 µl	50 µl
Read A_1 absorbances and after 5 minutes at 37°C the A_2 absorbances. Calculate the delta absorbance.			

CALCULATION
Serum / Urine (Xilose mg/dl)

(ΔA sample/ΔA standard) x 40

EXPECTED VALUES
CHILDS
(Administered 1 g of xilose per Kg of corporeal weight until a maximum of 25 g)

Serum/1h	> 30 mg/dl
Urine/5h	16 - 33 %

ADULTS
(Administered 25 g of xilose)

Serum/2h	> 25 mg/dl
Urine/5h	> 4 g

Every laboratory should establish own reference intervals in accordance with own population.

NOTES
- In syndromes from bad absorption of intestinal origin, the test results positive with high frequency, with elimination values of xilose in 5 hours urine, inferior to 2 g.
- The presence of an high xilose value in blood with a low elimination lays down for a non-elimination in consequence of a renal affection, and take off value to the test.
- If the results are incompatible with clinical presentation, they have to be evaluated within a total clinical study.
- Only for IVD use.

CALIBRATION/QUALITY CONTROL
It's advisable to perform an internal quality control. In order to do this, on request are available the following control solutions:

CC02630 **4 x 1 ml**
XILOSE - Control Set (2 levels)

TEST PERFORMANCE
Precision

Intra-assay (n=10)	Mean (mg/dl)	SD (mg/dl)	CV %
Pool low value	20.61	0.62	3.03
Pool high value	57.98	0.55	0.95

Inter-assay (n=6)	CV %
Pool mean value	2.14
Pool high value	2.1

Sensibility/limit of detention
The method is able to discriminate up to 3 mg/dl.

Linearity
The method is linear up to 70 mg/dl.
If the value is exceed, is suggested to dilute the sample 1+9 with physiological solution and re-perform the test multiply the result by 10.

Methods comparison
A comparison with a commercial available product gave the following results in a comparison on 20 samples:

Xilose U.V. LTA = y
Xilose competitor = x
n = 20

y = 1.0419x - 1.15048 r = 0.9657

Interferences
In case of diabetic patients with high glucose value, be sure that the reaction of glucose destruction has been completely occurred.

WASTE DISPOSAL
Product is intended for professional laboratories. Waste products must be handled as per relevant security cards and local regulations.

PACKAGING
CODE CC03000	(50 TESTS)	
Reagent A	1 x 20 ml	(liquid)
Reagent B	1 x 5 ml	(liquid)
Reagent C	3 x 1 ml	(liophile)
Standard	1 x 2 ml	(liquid)

REFERENCES
Mori L. Clin. Biochem. 27(1):21-3; 1994
Pasquinelli, Diagnostica e Tecniche di laboratorio Vol.1, p.1258.

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SYMBOLS
IVD	Only for IVD use
LOT	Lot of manufacturing
REF	Code number
	Storage temperature interval
	Expiration date
	Warning, read enclosed documents
	Read the directions
	Biological risk

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