D-Xylose Microplate Assay Kit

Catalog # AS0188

Detection and Quantification of D-Xylose Content in Urine, Serum, Plasma, Tissue extracts, Cell lysate, Cell culture media, Other biological fluids Samples.

This instruction must be read in its entirety before using this product.

For research use only, Not for use in diagnostic procedures.

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I. INTRODUCTION

In nature, D-xylose occurs mainly in the polysaccharide form as xylan, arabinoxylan, glucuronoarabinoxylan, xyloglucan and xylogalacturonan. Mixed linkage D-xylans are also found in certain seaweed species and asimilar polysaccharide is thought to make up the backbone of psyllium gum. In humans, D-xylose is used in an absorption test to help diagnose problems that prevent the small intestine from absorbing nutrients, vitamins and minerals in food. D-Xylose is normally easily absorbed by the intestine. When problems with absorption occur, D-xylose is not absorbed and blood and urine levels are low. A D-xylose test can help to determine the cause of a child's failure to gain weight, especially when the child seems to be eating enough food. If, in a polysaccharide, the ratio of D-xylose to other sugars etc. is known, then the amount of the polysaccharide can be quantified from this knowledge plus the determined concentration of D-xylose in an acid hydrolysate. Xylans are a major portion of the polysaccharides that could potentially be hydrolysed to fermentable sugar for biofuel production.

D-Xylose Microplate Assay Kit provides a convenient tool for sensitive detection of D-Xylose in a variety of samples. The D-Xylose is subsequently measured by a coupled chemical reaction system with a colorimetric readout at 550 nm.

II.KIT COMPONENTS

Component	Volume	Storage
96-Well Microplate	1 plate	
Assay Buffer	30 ml x 4	RT
Dye Reagent	Powderx 1	4 °C
Dye ReagentDiluent	18 ml x 1	4 °C
Standard	Powder x 1	4 °C
Plate Adhesive Strips	3 Strips	
Technical Manual	1 Manual	

Note:

Standard: add 1 ml distilled water to dissolve before use; then add 0.2 ml into 0.8 ml distilled water, mix, the concentration will be 4 mmol/L.

Dye Reagent: add 18 ml Dye ReagentDiluent to dissolve before use.

III. MATERIALS REQUIRED BUT NOT PROVIDED

1. Microplate reader to read absorbance at 550 nm
2. Distilled water
3. Pipettor
4. Pipette tips
5. Mortar
6. Centrifuge
7. Timer
8. Convection oven
9. Water bath

IV. SAMPLE PREPARATION

1.For tissue samples

Weighout 0.1 g tissue, homogenize with 1 mlAssay Buffer, then transfer it to the microcentrifuge tubes; incubate at 100 °C water bath for1 hour; centrifuged at 10,000g for 10 minutes, take the supernatant into a new centrifuge tube for detection.

2.For liquid samples

Detect directly or dilute with distilled water.

V. ASSAY PROCEDURE

Add following reagents intothe microplate:

Reagent	Sample	Standard	Blank
Sample	20 µl	--	--
Standard	--	20 µl	--
Assay Buffer	--	--	20 µl
Dye Reagent	180µl	180µl	180µl
Mix, put the plate into the convection oven,90°C for 10minutes. When cold, record absorbance measured at 540 nm.			

VI. CALCULATION

1. According to the weight of sample

$$D\text{-Xylose (mmol/g)} = (C_{Standard} \times V_{Standard}) \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank}) / (W \times V_{Sample} / V_{Assay})$$

$$= 0.004 \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank}) / W$$

2. According to the volume of sample

$$D\text{-Xylose (mmol/ml)} = (C_{Standard} \times V_{Standard}) \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank}) / V_{Sample}$$

$$= 0.004 \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank})$$

$C_{Standard}$: the concentration of standard, 4 mmol/L = 0.004 mmol/ml;

W: the weight of sample, g;

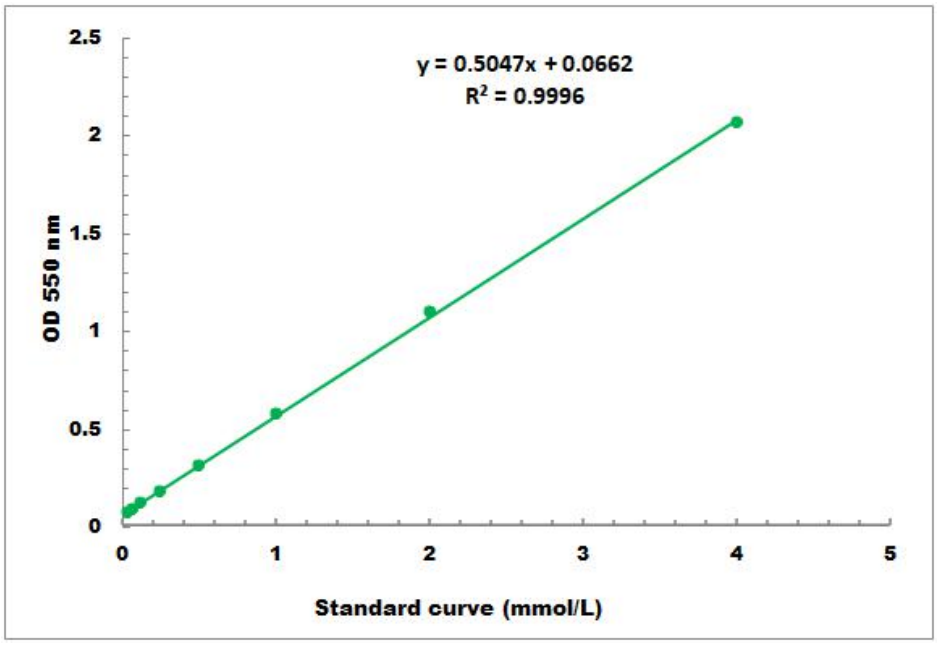
$V_{Standard}$: the volume of standard, 0.02 ml;

V_{Sample}: the volume of sample, 0.02 ml;

V_{Assay}: the volume of Assay Buffer, 1 ml.

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.sabbiotech.cn or contact us at techcn@signalwayantibody.com

IX. NOTES