



SUGAR ABSORPTION TEST (SAT)

DETERMINATION OF LACTULOSE AND MANNITOL

- Enzymatic Method
- Instrument Application Sheets Available
- Use Urine
- With Lactulose & Mannitol Solution Procedure
- Incl. Lactulose & Mannitol Standard and Control
- Wavelength 340, 334, 365 nm



Products	Product no.	Quantity
Sugar Absorption Test Set	2858	5 – 25 tests
Lactulose Reagent Set	2858-L	5 – 25 tests
Mannitol Reagent Set	2858-M	5 – 25 tests

SUMMARY

CLINICAL BACKGROUND AND ASSAY PRINCIPLE

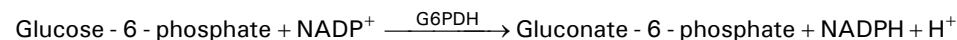
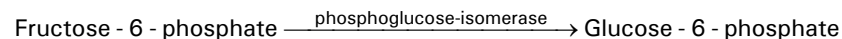
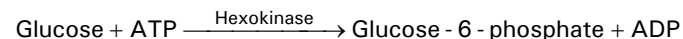
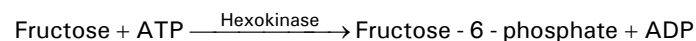
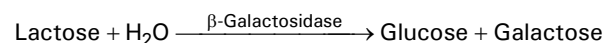
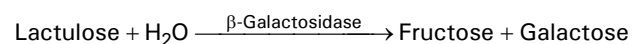
Testing intestinal permeability by differential sugar absorption tests is becoming increasingly popular in the diagnosis and follow-up of small intestinal diseases.

The principle of these tests is based on simultaneously oral administration of a disaccharide and a monosaccharide after which the concentrations of these two sugars are measured in 5h urine excretion. These tests give more reliable and reproducible results than the one marker tests, for example the D-xylose test, in predicting the degree of enteropathy.

We use the sugar absorption test, containing lactulose and mannitol with sucrose added as osmotic filter. The SAT solution contains 5 gr Lactulose, 2 gr Mannitol and 40 gr Sucrose per 100 ml and is given orally in a dose of 2 ml/kg body weight (maximum 100 ml).

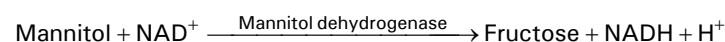
Briefly the involved reactions are:

Lactulose:



The amount of NADPH, obtained by measuring the increase in absorbance at 340 nm, is directly proportional to the lactulose concentration if this is the only sugar present. Corrections are necessary for the interference of lactose and free glucose through the test and free fructose through the blank.

Mannitol:



The increase in absorbance at 340 nm is recorded.

SAMPLE MATERIAL



instruChemie[®]
Science without f(r)iction

Zwet 26 9932AB
The Netherlands

Delfzijl

Tel. +31 (0)596 - 634 831
Fax +31 (0)596 - 634 755



Collect 5 hours urine specimens after oral consumption of the sugars in a container with 0.5 ml 20% chlorohexidine as a preservative.

SAMPLE PREPARATION

Pipette as soon as possible after receiving the 5 hours urine specimens, 10 ml urine in a centrifuge tube and add 2 drops of 20% chlorohexidine and mix. Centrifuge at ± 2000 rpm. during 5 minutes and continue with the assays or store the supernatant. Stability: 24 hours at 2-6 °C and at least 6 month at -20 °C.

LINEARITY

Lactulose assay: 0.10 - 16.0 mmol/l
Mannitol assay: 0.10 - 20.0 mmol/l

QUALITY CONTROL

Pooled urine of known concentrations or commercially available control materials with established values are recommended for control of precision and accuracy.

EXPECTED VALUES

After oral administration of the sugars:

Lactulose / Mannitol ratio: 0.00 - 0.10
Lactulose / Creatinin: 3.4 – 25.2 mmol/mol
Mannitol / Creatinin : 443 - 1264 mmol/mol

NOTES

1. For in vitro diagnostic use only.
2. For professional use only.
3. Always contact INstruChemie for the complete product insert and latest edition.
4. Patient instructions are available on request.
5. SAT-solution recipe for patients is available on request.
6. Lactulose and Mannitol determination also available as separate sets with control, Lactulose, productnr. 2858-L, 5 – 25 tests, Mannitol, productnr. 2858-M, 5 – 25 tests.
7. Printed in the Netherlands, SAT-summary-280725-1.FEN