

# Reducing Substances in Faeces or Urine

## Purpose of Test

Most commonly requested on a specimen of faeces from an infant.

The commonest reason for requesting this analysis is to determine the presence of reducing sugars in faeces, usually due to a duodenal enzyme deficiency preventing the normal hydrolysis of disaccharides to their respective monosaccharides. Please note that in infants, reducing sugars may be present in the faeces due to intestinal hurry / diarrhoea from other causes which prevent complete absorption.

The main substances likely to be detected in the faeces of infants include:

- Glucose-also known as Dextrose.
- Fructose (and other pentoses).
- Galactose - seen in most types of Galactosaemia.
- Lactose – (a disaccharide of Glucose-Galactose) and sometimes seen in lactose intolerance.
- Other substances may rarely give a positive result.
- Sucrose (a disaccharide of Glucose-Fructose) **is not detected** in its natural state unless it is hydrolysed first (see below).

## Specimen Required

### *Faeces*

- Faeces contain a large number of bacteria which can metabolise the sugars of interest. Therefore, the ***specimen should be fresh*** and should be examined as soon as possible after collection. A “pea-sized” sample is the minimum specimen required.
- Specimen must be sent ***on ice*** to ACT Pathology immediately following collection.
- If there is any delay in reaching the laboratory, freeze the specimen immediately after collection and transport on ice.
- If other tests such as MC&S are required, please send a separate sample.

## Urine

- A fresh urine specimen is required. Specimen must be sent *on ice* to ACT Pathology immediately following collection.
- If there is any delay in reaching the laboratory, freeze the specimen immediately after collection and transport on ice.
- If other tests such as MC&S are required, please send a separate sample.

## Laboratory Procedure

Urine and Faeces (after pre-treatment) is used to:

- Detect the presence of REDUCING SUBSTANCES using Benedict's reagent (Screening test).
- Detect the presence of GLUCOSE using Multistix.
- Detect the presence of SUCROSE following hydrolysis of the extract and retesting with Multistix.
- IDENTIFY the reducing sugars by Thin Layer Chromatography.

A report will identify the presence or absence of reducing substances and sucrose.

If present the reducing substance will be further identified to determine if it is glucose or one of the above sugars outlined earlier in this document.

If non sugar reducing substance is identified, we will not further identify it beyond noting its presence and the possible compounds it might be. For further information please contact

Dr Marie Salib                      Director of Chemical Pathology                      512 48646

Dr Peter Hickman                      Chemical Pathologist                      512 42840