



# NutriScan

## **Glycaemic Index and Resistant Starch Analyser**

**NutriScan** is an automated in vitro digestion system designed to measure the amount of glucose that is released during the enzymatic breakdown of foods. The objective is to predict the GI, i.e., Glycaemic Index, and the RS, i.e., Resistant Starch, that would be determined by the standard in vivo methodology.

**NutriScan** does not measure GI, but emulates the breakdown of food in the human gut and provides a measurement that correlates strongly with the in vivo methodology.

**NutriScan** has been developed by CSIRO, Division of Human Nutrition, Adelaide, South Australia. CSIRO designed and fabricated a prototype GI Analyser and a prototype of a RS Analyser, i.e., Resistant Starch. These instruments have been used to test a broad range of foods and to validate the strong correlation between these prototypes and the in vivo methodologies.

**Next Instruments Pty Ltd** has been awarded the license by CSIRO to commercialise these technologies. **NutriScan GI Analyser** and **NutriScan RS Analyser** are the results of this license.

The benefits of **NutriScan GI Analyser** over the in vivo methodology is in the reproducibility of the in vitro analyser. As well, since NutriScan does not require the collection of blood samples from human subjects as does the in vivo methodology, it has significant social and cost benefits.



Since Resistant Starch can only be measured by operating on a subject and removing the contents of the colon to measure the undissolved starch, benefit of the **NutriScan RS Analyser** is that it is completely non invasive.

### **System Description**

**NutriScan** is a purpose built instrument with a 20 vessel heating block with built in magnetic stirrers. An XY autosampler is used to load the necessary reagents into each vessel in the appropriate time sequence. As the food is digested, the glucose released from the food is measured by extracting a small volume of the sample mixture and analysing it in a unique in line glucose analyser, based on a membrane immobilised enzymatic reaction.

**NutriScan GI Analyser** takes approximately 5 hours for analysis. **NutriScan RS Analyser** takes approximately 16 hours to complete the digestion and analysis. The RS Analyser measures Glycaemic Index, Soluble Starch and Resistant Starch.



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