



# Digestible & Resistant Starch Assay Kit (K-DSTRS)

Understanding the starches in food products

## The Megazyme Difference

Through extensive research, Megazyme has created the **Digestible and Resistant Starch Assay Kit (K-DSTRS)** to allow food laboratories to measure the digestible and resistant components of starch with a single kit.



### Rapidly digested starch (RDS)

Starch hydrolysed after **20 min incubation** under physiological conditions

### Slowly digested starch (SDS)

Starch hydrolysed **between 20 min and 120 min (2 h) incubation** under physiological conditions

### Total digestible starch (TDS)

Total starch hydrolysed within **240 min (4 h) incubation** under physiological conditions

### Resistant starch (RS)

Starch which is **not digested** within 240 min (4 h) incubation under physiological conditions

## Digestible Starch

- "Digestible" forms of dietary starch can be hydrolysed and absorbed in the small intestine at the same rate as simple sugars.
- The **glycemic index (GI)** of a food is influenced by the relative presence of **rapidly-digested starch** and **slowly-digested starch**.
- This assay kit (K-DSTRS) employs a more physiologically-relevant 4 h incubation step with pancreatic  $\alpha$ -amylase/amyloglucosidase than existing methods such as AOAC 2002.02 (16 h). This reflects the transit time in the human small intestine.

## Resistant Starch

- "Resistant" starch remains undigested even after 4 h (the typical residence time of food in the small intestine).
- Since 2009, this digestion-resistant starch (RS) has been defined as dietary fiber by Codex Alimentarius.
- Consequently, **accurate measurement of RS** is imperative in accurately measuring **total dietary fiber (TDF)**.

Purchase online at [www.megazyme.com](http://www.megazyme.com)

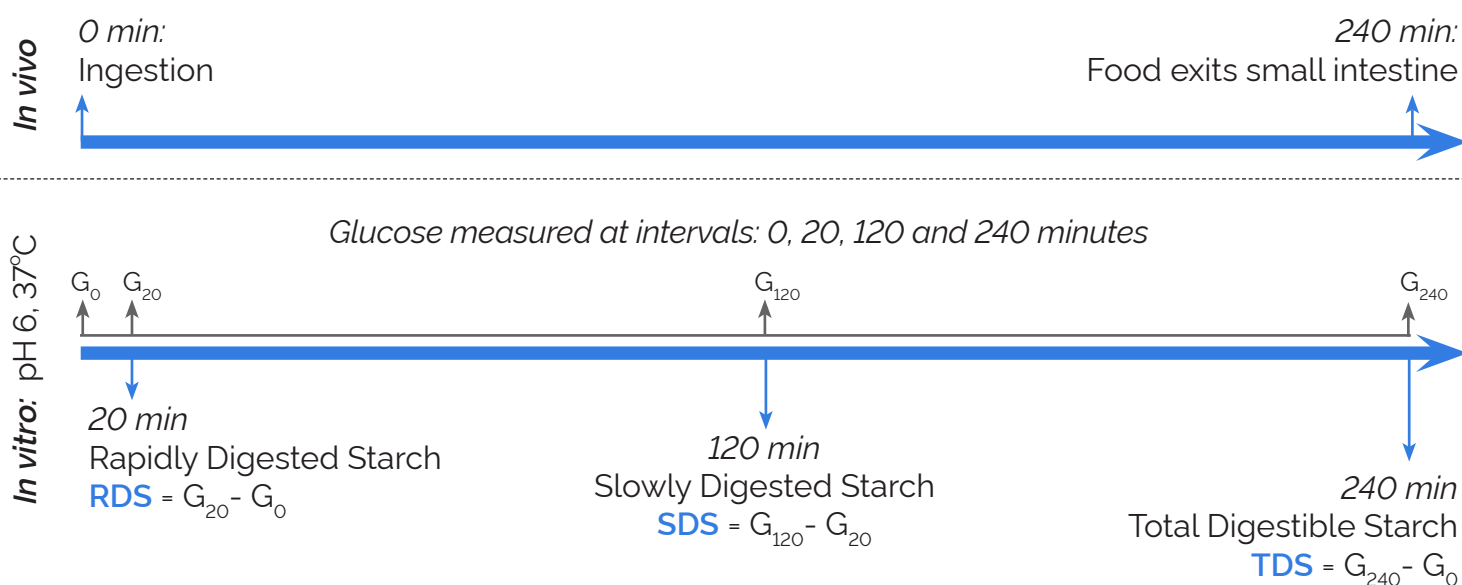


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## Principle and Procedure

The Digestible and Resistant Starch Assay Kit (**K-DSTRS**) describes procedures for the measurement of RDS, SDS, TDS and RS, and is applicable to all samples. As in AOAC Method 2017.16 (Megazyme's **K-RINTDF**), pure starches or starch-containing samples are incubated with a mixture of pancreatic  $\alpha$ -amylase and amyloglucosidase (PAA/AMG) in maleate buffer.



The starch remaining after 240 min is washed to remove glucose and is then dissolved in sodium hydroxide, neutralised and fully hydrolysed with AMG to glucose, which is then measured to give the **RS** content.

## Starch Assay Kits from Megazyme

Product Code	Product Name	Assays per Kit
<b>K-DSTRS</b>	<b>Digestible and Resistant Starch Assay Kit</b> Measures the digestible (RDS, SDS and TDS) and resistant (RS) components of starch in a single assay.	160 (40 of each component)
<b>K-RAPRS</b>	<b>Resistant Starch Assay Kit (Rapid)</b> Rapid and accurate measurement of resistant starch. This update to AOAC 2002.02 employs a 4 h incubation based on elements of AOAC 2017.16 (for total dietary fiber).	100
<b>K-RSTAR</b>	<b>Resistant Starch Assay Kit</b> Measures resistant starch according to AOAC 2002.02.	100
<b>K-TSTA-50A</b> <b>K-TSTA-100A</b>	<b>Total Starch Assay Kit</b> Measures total starch according to AOAC 996.11 but has been considerably simplified and applied to animal feed and pet food.	50 100
<b>K-AMYL</b>	<b>Amylose/Amylopectin Assay Kit</b> The only enzymatic kit available for determination of the amylose/amylopectin ratio of starch.	100
<b>K-SDAM</b>	<b>Starch Damage Assay Kit</b> Highly specific kit for measurement and analysis of starch damage in cereal flours.	200