



# Resistant Starch Assay Kit (Rapid) (K-RAPRS)

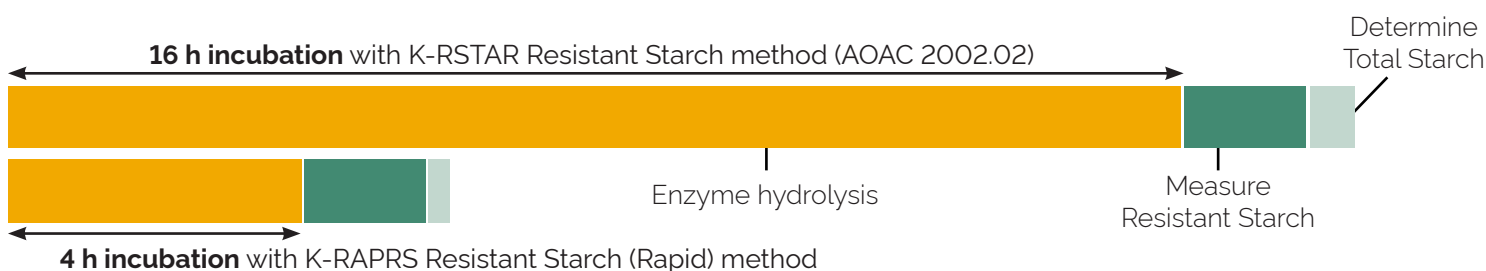
Physiologically-relevant 4 hour incubation simulates *in vivo* conditions

## The Megazyme Difference

Based on the groundbreaking RINTDF method (AOAC 2017.16) for Total Dietary Fiber, Megazyme's new **Resistant Starch Assay Kit (Rapid) (K-RAPRS)** introduces a new procedure that generates the most accurate and physiologically-relevant *in vitro* results available for resistant starch.



Recent studies on the hydrolysis of "newer" resistant starch materials - such as phosphate crosslinked starch (RS<sub>4</sub>) - indicate that to obtain meaningful physiologically relevant values for RS, the time of incubation with PAA/AMG should be in line with the time of residence of food in the small intestine. This improved rapid method therefore **reduces the length of the enzyme incubation step** from **16 h to just 4 h**, allowing laboratories to obtain results that more accurately simulate *in vivo* studies and to reduce the overall assay time.



## Resistant Starch and Total Dietary Fiber

Resistant Starch is a component of **Total Dietary Fiber** according to the 2009 Codex definition, accepted internationally. The Rapid method used in our new kit is also employed in AOAC Method 2017.16 for the measurement of Total Dietary Fiber as defined by Codex.

- AOAC Method 2017.16 is available in the **Rapid Integrated Total Dietary Fiber** kit (**K-RINTDF**).
- For laboratories that are still using pre-2009 analytical methods, Megazyme continues to offer the **K-TDFR** kit for Total Dietary Fiber, which does not accurately measure resistant starch.

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



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## Results Obtained from Resistant Starch (Rapid) vs AOAC Method 2002.02

Results obtained using the new Resistant Starch (Rapid) procedure correlate closely with those of AOAC method 2002.02. For a number of samples, results from the Rapid method indicate that there may be significant under-reporting of Resistant Starch under the established method as demonstrated in the table below.

Sample	Resistant starch (average of duplicate analyses) % w/w 'as is' basis	
	AOAC Method 2002.02	Resistant Starch (Rapid) Method
Native potato starch	60.9	63.9
<b>Fibersym (RS<sub>4</sub>)</b>	<b>29.7</b>	<b>60.2</b>
<b>Hylon VII®</b>	<b>41.5</b>	<b>52.3</b>
Actistar®	46.3	49.3
<b>High Amylose Maize starch</b>	<b>37.9</b>	<b>48.5</b>
Novelose 240®	40.4	44.6
Potato Amylose	35.6	35.3
Semi green banana	13.8	11.0
Tinned garden peas	8.2	7.7
Tinned chickpeas	5.0	5.1
Tinned kidney beans	4.3	4.3
Kidney beans	3.5	4.0
Heinz® baked beans (FD)	3.6	3.8
Tinned butter beans	3.1	3.3
UB Ready Extra White Rice	3.2	3.2
UB Express boiled rice	2.4	2.4
Corn Flakes	2.2	2.1
Ryvita® dark rye crackers	1.7	1.9
Regular maize starch	0.9	1.8
Brennan's wholemeal bread	0.9	0.8
Wheat Starch	0.4	0.5

Source: K-RAPRS Data Booklet

### Resistant Starch and Starch Content

The Resistant Starch Assay Kit (Rapid) (**K-RAPRS**) method describes procedures which measure Resistant Starch, Total Digestible Starch, and subsequently Total Starch.

- Digestible Starch (including **Rapidly Digested Starch**, **Slowly Digested Starch** and **Total Digestible Starch**) may be analysed in greater detail using Megazyme's Digestible and Resistant Starch Assay Kit (**K-DSTRS**).
- The Available Carbohydrates Assay Kit (**K-AVCHO**) determines **available carbohydrates** incorporating total digestible starch content.
- For rapid measurement of **Total Starch** only, our Total Starch Assay Kit **K-TSTA** (AOAC Method 996.11) remains the most suitable procedure. This method has been the international standard for over 20 years and has recently been updated for more accurate measurement of starch in animal feeds and pet foods.