

# Food allergen testing – detect soy in raw and heat processed food

## Most comprehensive product range soy detection kits

- LFD, ELISA and real-time PCR for native and heat processed soy proteins
- For swabbing and food analysis
- Precise and sensitive assays
- ELISA validated for automation
- Multiplex real-time PCR



Dip  
Stick

ELISA

PCR

## Soy as an allergen

Soy belongs to the so called big 8 allergens, therefore it has to be labeled as a food ingredient, nearly worldwide. Already small amounts of soy proteins can induce allergic symptoms at a dose of more than 5 mg soy protein. Soy allergic patients have to avoid food containing soy. Therefore, analysis needs to be very sensitive and reproducible.

Especially heated food may contain soy proteins undetected by common methods, due to the lack of adequate antibodies and efficient extraction.

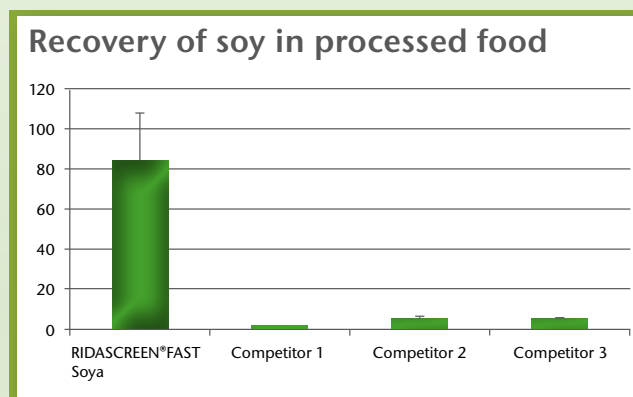
RIDA®QUICK Soya, RIDASCREEN®FAST Soya and PCR products of SureFood® are tested for highly heated and also non-processed products. SureFood® PCR is also suitable for the confirmation of results obtained by ELISA, especially if a cross reactivity is suspected.

This interactive webbased brochure allows you to watch our training videos, if the computer is connected to the internet. Simply click on the small camera icons to watch and learn about the practical test procedures.

## Proficiency testing using ELISA (DRRR, DLA, FAPAS)

In a laboratory proficiency testing, food was spiked with a known amount of soy and afterwards processed. In Figure 1 results of that proficiency

testing are shown. Data indicate that only the RIDASCREEN®FAST Soya is able to detect soy in heat processed food.



**Figure 1:** Recovery in % of food spiked with a known amount of soy, analyzed with different test kits in a proficiency testing round.

**Table 1:** Different test formats for the detection of soy

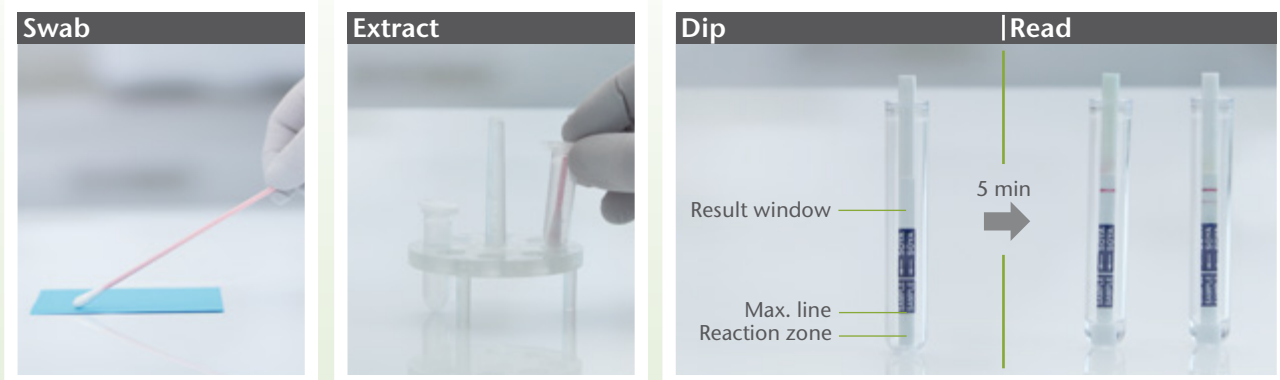
Intended use	Surfaces	All kinds of food samples			
		Qualitative		Quantitative	
Test kit	<i>RIDA®QUICK Soya*</i>	<i>SureFood® ALLERGEN ID Soya*</i>	<i>SureFood® ALLERGEN ID 4plex Soya/Celery/Mustard + IAC</i>	<i>RIDASCREEN®FAST Soya*</i>	<i>SureFood® ALLERGEN QUANT Soya</i>
Method	Dip stick (Art. No. R7103)	qPCR (Art. No. S3101)	Multiplex PCR (Art. No. S3401)	ELISA (Art. No. R7102)	qPCR (Art. No. S3201)
Extraction	RIDA®QUICK Soya Extraction buffer (Art. No. 7113)	SureFood® PREP Advanced (Art. No. S1053)	SureFood® PREP Advanced (Art. No. S1053)	Extractor 3 contained in the test kit	SureFood® PREP Advanced (Art. No. S1053)
Detection	Intact proteins and large fragments	Soy specific DNA		Intact proteins and large fragments	Soy specific DNA
Limit of detection	> 0.5 µg soy protein/100 cm <sup>2</sup>	< 0.4 mg/kg (ppm)	≤ 1 mg/kg (ppm)	0.3 mg/kg (ppm) soy protein	< 0.4 mg/kg (ppm)
Limit of quantification	–	–	–	2.5 mg/kg (ppm) soy protein	1 mg/kg (ppm)
Incubation time	20 min	~ 50 min	~ 50 min	30 min	~ 50 min

\* Not suitable for hydrolyzed food, matrices described in the respective validation report.

## Hygiene control with RIDA<sup>®</sup>QUICK Soya

The Hazard Analysis of Critical Control Points (HACCP) is necessary to ensure soy free products. The RIDA<sup>®</sup>QUICK Soya is an ideal tool for the surface testing in production lines and laboratories.

Beside surface swabbing RIDA<sup>®</sup>QUICK Soya can also be used for food analysis. For more information please refer to our validation report.



The instruction videos on our website [www.r-biopharm.com](http://www.r-biopharm.com) will guide you through sample preparation and analysis with RIDA<sup>®</sup>QUICK Soya.



## Quantitative determination with RIDASCREEN<sup>®</sup>FAST Soya

Soy-free foods are constantly surveyed for the presence of soy by manufacturers or by food inspectors. Therefore, food has to be analyzed for

the content of soy. The RIDASCREEN<sup>®</sup>FAST Soya is suitable for the determination of soy, even in heat processed food.



The instruction videos on our website [www.r-biopharm.com](http://www.r-biopharm.com) will guide you through sample preparation and analysis with RIDASCREEN<sup>®</sup>FAST Soya.

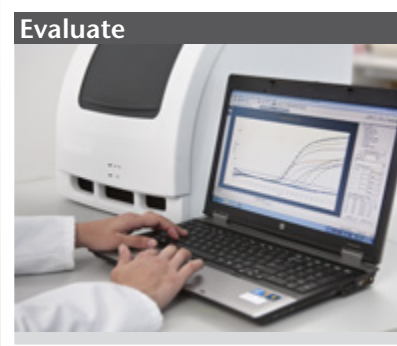




## Qualitative/quantitative determination with real-time PCR

Quantitative and qualitative SureFood® test kits are available. Multiplex PCR can be used for the







simultaneous determination of soy, celery and mustard.



The instruction videos on our website [www.r-biopharm.com](http://www.r-biopharm.com) will guide you through sample preparation and detection or quantification of soy by real-time PCR.



## Test kit portfolio

Product	Description	No. of tests/amount	Art. No.
<b>ELISA</b>	<b>Microtiter plates</b>		
RIDASCREEN®FAST Soya	Sandwich ELISA to quantify traces of soy protein in native and processed food; the kit is suitable for automation; Detection limit: 0.3 mg/kg (ppm), the kit is suitable for automation	48 determinations Incubation time: 30 min	R7102 
<b>ELISA</b>	<b>Accessories</b>		
Set of 3 processed Soya Assay Controls	Three assay controls: 1 negative, 2 positive homogenized processed cookies; produced by Trilogy® Analytical Laboratories	3 x 2 g	R7132
<b>Lateral Flow</b>	<b>Test strips</b>		
RIDA®QUICK Soya	Immunochromatographic test for the determination of soya on surfaces, also strongly heated soya samples were detected. Detection limit: 0.5 µg soya protein/100 cm <sup>2</sup> 0.5 mg/kg soya protein in wheat flour 10 mg/kg soya protein in processed food	25 dip sticks in reclosable tube, conjugate, extraction buffer (ready to use), 30 plastic tubes, 25 tubes, 26 swabs, 50 pipette tips Incubation time: 16 min	R7103 
<b>Lateral Flow</b>	<b>Accessories</b>		
RIDA®QUICK Soya Extraction buffer	Extraction bufer for the sample preparation before determination with RIDA®QUICK Soya (R7103)	2 x 100 ml	R7113
RIDA®QUICK Soya accessory pack	Accessories for the use of the RIDA®QUICK Soya	Test tube holder, floating rack, 150 µl pipett	Z7103
<b>Real-time PCR</b>	<b>DNA preparation</b>		
SureFood® PREP Advanced	For highly processed matrices (food and feed)	50 preparations	S1053
<b>Real-time PCR</b>	<b>Qualitative DNA detection</b>		
SureFood® ALLERGEN ID Soya	Detection limit: ≤ 0.4 mg/kg (ppm); depending on matrix and DNA preparation	100 reactions*	S3101 
<b>Real-time PCR</b>	<b>Quantitative DNA detection</b>		
SureFood® ALLERGEN QUANT Soya	Detection limit: ≤ 0.4 mg/kg (ppm) Quantification limit: 1 mg/kg (ppm) depending on matrix and DNA preparation	100 reactions**	S3201 
SureFood® QUANTARD Allergen 40	Corn flour contains 12 potential allergens in food except sulphite and lactose with concentration of 40 mg/kg (ppm). Material is developed for quantification of allergens in food	2 grams	S3301 
<b>Multiplex Screening</b>	<b>Real-time PCR – Qualitative DNA detection</b>		
SureFood® ALLERGEN ID 4plex Soya/Celery/ Mustard + IAC	Detection limit ≤ 1 mg/kg (ppm); depending on matrix and DNA preparation	100 reactions	S3401 

\* Includes additional 100 reactions of Inhibition Control Mix (ICM).

\*\* SureFood® QUANTARD Allergen 40 must be used for quantification in ppm units.