

Food safety: Detect soy especially in highly processed food

Most comprehensive product range

- LFD, ELISA and real-time PCR for 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 processed 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.

Product testing using ELISA (data of proficiency testing provider)

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 processed food.

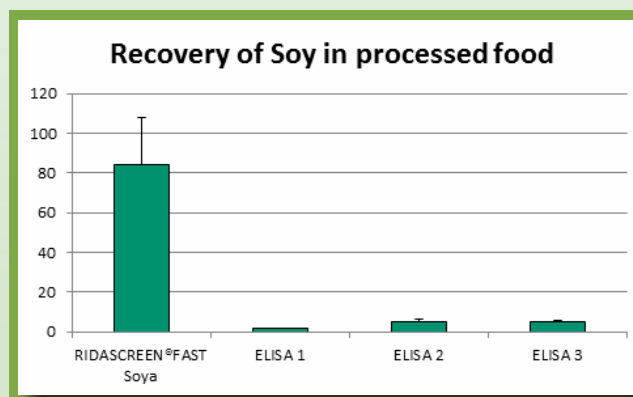


Figure 1: Recovery in % of food spiked with a known amount of soy, analyzed with different test kits in a proficiency testing round. ELISA 1 - 3 are competitor products.

Table 1: Different test formats for the detection of soy

Intended use	Surfaces	All kinds of food samples ^a			
		Quantitative		Quantitative	
Test kit	RIDA®QUICK Soya	SureFood® ALLERGEN ID Soya	SureFood® ALLERGEN ID 4plex Soya/Celery/Mustard + IAC	RIDASCREEN®FAST Soya	SureFood® ALLERGEN QUANT Soya
Method	Dip stick (Art No. R7103)	qPCR (Art No. S3101)	Multiplex PCR (Art No. S3401)	ELISA (Art No. R7102)	qPCR (Art No. S3201)
Detection	Intact large soy proteins with more than one epitope	Soy specific DNA		Intact large soy proteins with more than one epitope	Soy specific DNA
Limit of detection	> 0.5 µg soy protein/100 cm ²	< 0.4 mg/kg (ppm) ^b	≤ 1 mg/kg (ppm) ^b	0.3 mg/kg (ppm) soy protein	< 0.4 mg/kg (ppm) ^b
Limit of quantification	–	–	–	2.5 mg/kg (ppm) soy protein	1 mg/kg (ppm) ^b
Incubation time	20 min	~ 50 min	~ 50 min	30 min	~ 50 min

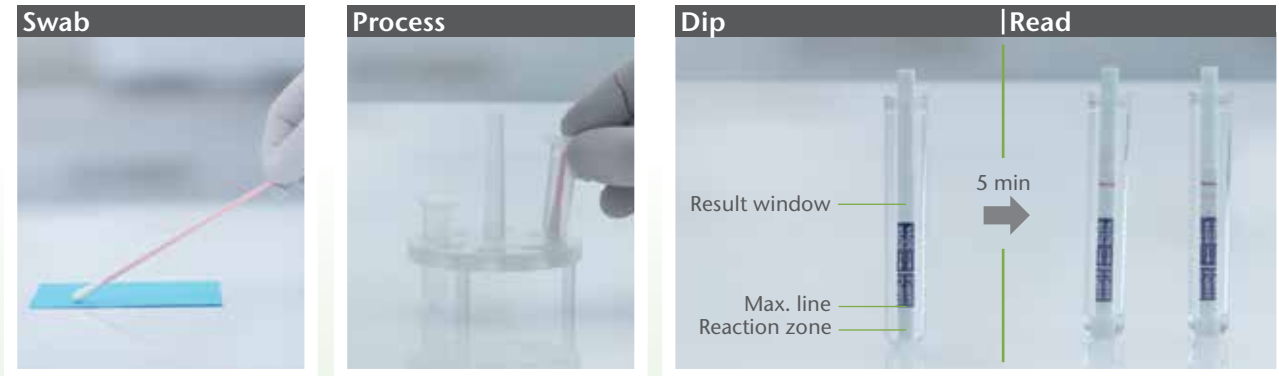
^a not suitable for hydrolyzed food, matrices described in the respective validation report

^b allergenic substance in non-processed corn flour using SureFood® PREP Advanced protocol

Hygiene control with RIDA®QUICK Soya

The Hazard Analysis of Critical Control Points (HACCP) is necessary to ensure soy free products.

The RIDA®QUICK Soya is an ideal tool for the surface testing in production lines and laboratories.



Quantitative determination with RIDASCREEN®FAST Soya



Soy-free products 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®FAST Soya is suitable for the determination of soy, even in highly processed food.

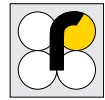


Qualitative/Quantitative determination with real-time PCR

Also qPCR is suitable for the determination of soy in food samples. Especially, a multiplex PCR can be used for the determination of three different

parameters in one single food sample after one preparation.





Product	Description	No. of Tests/Amount	Art. No.
ELISA Microtiter Plates			
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
ELISA – Accessories			
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
Lateral Flow Test Strips			
RIDA®QUICK Soya	Immunochromatographic test for the determination of soya on surfaces, also strongly heated soya samples were detected. It is recommended to use RIDA®QUICK Soya accessory pack (Z7103) for sample preparation. Detection limit: approx. 0.5 µg soya protein / 100 cm ²	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
Lateral Flow – Accessories			
RIDA®QUICK Soya accessory pack	Accessories for the use of the RIDA®QUICK Soya	1 Set	Z7103
Real-time PCR – Qualitative DNA Detection			
SureFood® ALLERGEN ID Soya	Detection limit: ≤ 0.4 mg/kg (ppm); depending on matrix and DNA preparation	100 reactions*	S3101
Real-time PCR – Quantitative DNA Detection			
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
Multiplex Screening			
Real-time PCR – Qualitative DNA Detection			
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.