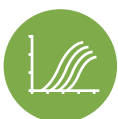


# SureFood® Allergen kits

Qualitative and quantitative real-time PCR analysis



Automated DNA preparation

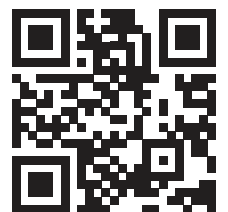


Multiplex allergen test kits



Qualitative detection and quantification

More information:



<https://r-b.io/fdallrgns>

# Allergen analysis with real-time PCR

Food allergies are specific food intolerances, that can cause an immunological reaction. This can even lead to an anaphylactic shock which can prove fatal in some cases.

In accordance to REGULATION (EU) No 1169/2011 the food **ingredient** needs to be declared for consumer protection.



## Labelling obligation in the EU:

1. Cereals containing gluten (i.e. wheat, rye, barley, oats, spelt, kamut) and products thereof\*
2. Crustaceans and products thereof\*
3. Eggs and products thereof\*
4. Fish and products thereof\*
5. Peanuts and products thereof\*
6. Soya beans and products thereof\*
7. Milk and products thereof (including lactose)\*
8. Nuts, i.e. almond, hazelnuts, walnuts, cashews, pecan nuts, brazil nuts, pistachio nuts, macadamia nuts and queensland nuts and products thereof\*
9. Celery and products thereof\*
10. Mustard and products thereof \*
11. Sesame seeds and products thereof \*
12. Sulphur dioxide and sulphites at concentrations of more than 10 mg/kg or 10 mg/litre expressed as SO<sub>2</sub>
13. Lupin and products thereof \*
14. Molluscs and products thereof \*

### Reference:

Appendix 2 of EU Directive 2011/1169/EC

\* Exception: certain matrices.

Thus, different analytical methods can be used. With the detection of a listed ingredient, the food product needs to be labelled. Exceptionally, this is not necessary if the ingredient is largely removed during the production process (e.g. distillates or extracts).



## Labelling obligation in the US:

In other countries, however, different regulations apply such as in the USA: crustaceans, eggs, milk, peanuts, tree nuts, wheat soya, sulfur dioxide.

And since April 2021:

almond, beech nut, brazil nut, butternut, cashew, chinquapin, hazelnut, ginko nut, hickory nut, lichee nut, macadamia nut, pecan, pine nut, pistachio, sesame, walnut.



Eggs and milk cannot be analyzed with the real-time PCR, but immunological methods can be used for that. Barely suitable or even unsuitable for the PCR analysis are highly processed and/or purified products as no more or very little DNA is present, e.g. vegetable oil, gelatin, lecithin or starch.



# Real-time PCR workflow



## Uniform DNA preparation

**Manual – Spin filter based**  
SureFood® PREP Advanced

**Semi-automated – Magnetic beads based**  
TANBead/SureFast® Mag PREP Food



## qPCR – Standardized PCR set-up & thermal profiles

### Qualitative

- Multiplex – up to nine targets and internal control
- Duplex – kits include an internal amplification control (IAC; FAM/HEX)

### Quantitative

Duplex in combination with  
SureFood® QUANTARD Allergen 40

**Table 1:** Composition of SureFood® QUANTARD Allergen 40 adapted to EU Directive 1169/2011. It is based on corn flour material and contains the following potentially allergenic food ingredients in a concentration of 40 mg/kg.

Allergen	Food	Allergen	Food
Gluten containing cereals	Wheat flour type 405	Nuts	Hazelnuts, almonds, walnuts, cashew nuts, pecan nuts, brazil nuts, pistachio, macadamia nuts
Crustaceans	Black tiger shrimps	Celery	Celery seeds
Egg	Egg powder (hen)	Mustard	Mustards seeds, yellow
Fish	Salmon	Sesame	Sesame seeds
Peanut	Peanuts	Lupin	Lupin seeds
Soy	Soybeans	Buckwheat	Buckwheat
Milk	Milk powder (cow)	Molluscs	Sea scallop

## Your advantages



**User-friendly:**  
Standardized sample prep, qPCR set-up & thermal profiles



**Time saving:**  
Walk-away semi-automated DNA preparation & multiplex qPCR kits



**Everything from a single source:**  
kits, accessories, equipment, support

# SureFood® ALLERGEN kits

Product	Description	No. of tests/amount	Art. No.
<b>SureFood® PREP – DNA-preparation</b>			
SureFood® PREP Advanced	For highly processed matrices (food and feed)	50 preparations	S1053
<b>Extraction control detection kit</b>			
SureFast® Animal+Plant Control 3plex	Extraction control for plant or animal matrix including internal control DNA (ICD)	100 reactions	F4053
<b>SureFood® ALLERGEN – qualitative and/or quantitative real-time PCR</b>			
SureFood® ALLERGEN Almond	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3604
SureFood® ALLERGEN Brazil nut	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3617
SureFood® ALLERGEN Buckwheat	LOD ≤ 0,4 mg/kg (ppm)	100 reactions	S3620
SureFood® ALLERGEN Cashew	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3615
SureFood® ALLERGEN Celery	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3605
SureFood® ALLERGEN Coconut	LOD ≤ 1,0 mg/kg (ppm)	100 reactions	S3621
SureFood® ALLERGEN Crustaceans	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3612
SureFood® ALLERGEN Fish	LOD ≤ 1,0 mg/kg (ppm)	100 reactions*	S3610
SureFood® ALLERGEN Gluten	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3606
SureFood® ALLERGEN Hazelnut	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3602
SureFood® ALLERGEN Lupin	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3611
SureFood® ALLERGEN Macadamia	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3616
SureFood® ALLERGEN Molluscs	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3613
SureFood® ALLERGEN Mustard	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3609
SureFood® ALLERGEN Peanut	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3603
SureFood® ALLERGEN Pecan	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3618
SureFood® ALLERGEN Pistachio	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3614
SureFood® ALLERGEN Sesame	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3608
SureFood® ALLERGEN Soya	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3601
SureFood® ALLERGEN Walnut	LOD ≤ 0,4 mg/kg (ppm)	100 reactions*	S3607
<b>SureFood® ALLERGEN – qualitative real-time PCR</b>			
SureFood® ALLERGEN 4plex Cereals (wheat/barley/rye)	LOD ≤ 1,0 mg/kg (ppm)	100 reactions	S7006
SureFood® ALLERGEN 4plex Macadamia/Brazil nut/ Pecan + IAC	LOD ≤ 0,4 mg/kg (ppm)	100 reactions	S3403
SureFood® ALLERGEN 4plex Peanut/Hazelnut/Walnut + IAC	LOD ≤ 1,0 mg/kg (ppm)	100 reactions	S3402
SureFood® ALLERGEN 4plex Almond/Pistachio/ Cashew+IAC	LOD ≤ 0,4 mg/kg (ppm)	100 reactions	S3406
SureFood® ALLERGEN 4plex EU NUTS	LOD ≤ 1,0 mg/kg (ppm)	100 reactions	S3404
SureFood® ALLERGEN 4plex SEAFOOD (fish, molluscs, crustaceans)	LOD ≤ 1mg/kg (ppm)	100 reactions	S3405
SureFood® ALLERGEN 4plex Soya/Celery/Mustard + IAC	LOD ≤ 0,4 mg/kg (ppm)	100 reactions	S3401
SureFood® ALLERGEN Beechnut	LOD ≤ 1,0 mg/kg (ppm)	100 reactions	S3628
SureFood® ALLERGEN Insects	LOD ≤ 1,0 mg/kg (ppm)	100 reactions	S3626
SureFood® ALLERGEN Oat	LOD ≤ 1,0 mg/kg (ppm)	100 reactions	S7004
SureFood® ALLERGEN Pine	LOD ≤ 1,0 mg/kg (ppm)	100 reactions	S3624
SureFood® ALLERGEN Shea nuts	LOD ≤ 1,0 mg/kg (ppm)	100 reactions	S3622
<b>Laboratory reference material for quantification</b>			
SureFood® QUANTARD Allergen 40	Corn flour containing potential allergens in food except sulphite and lactose with concentration of 40 mg/kg. The material has been developed for PCR quantification of allergens in food	2 grams	S3301
SureFood® QUANTARD Allergen 1 ppm	Composition: see under SureFood® QUANTARD Allergen 40, in a concentration of 1 mg/kg.	2 grams	S3305
<b>SureFood® – qualitative real-time PCR</b>			
SureFood® Apricot	LOD ≤ 5 DNA copies	100 reactions	S7007

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