SureFood® GMO kits

For qualitative and quantitative detection of genetically modified organisms (GMO) in food & feed



- Manual & semi-automated DNA preparation for complex samples
- Multiplex screening
- Qualitative detection and quantification

More information:

https://r-b.io/pcrgmo

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GMO-analysis in food and feed

Currently, the routine analyses for the detection of genetically modified organisms (GMO) focus on genetically modified crops.

Most GMO events contain promotor/ terminator sequences (35S, NOS, FMV and others) which are not natural in these plants. Identification of these sequences is used for absence/presence screening of GMO. Some new GMO soya events do not contain such sequences. Screening must be performed by direct identification.

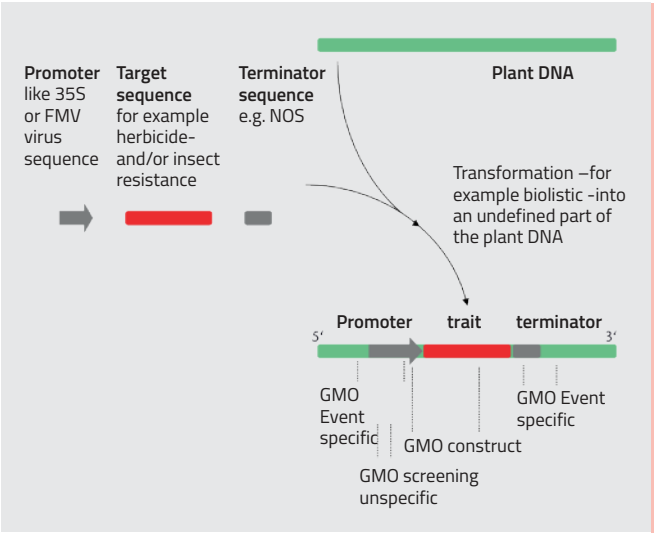


Fig.: Simplified presentation of the production and analytical sequences for plants containing GMO's

Multi-stage analysis method for GMO products:

Consistend DNA preparation

Manual – Spin filter

SureFood® PREP Basic
For raw materials and low-processed foods.

SureFood® PREP Add On
For 2 g sample weighing.

SureFood® PREP Advanced
For heavily processed samples.

Semi-automated – Magentic-Beads

SureFast® Mag PREP Food / TANBead Maelstrom
For raw materials, low- and heavily processed food and feed samples.

Modular qPCR System

Unspecific multiplex screening

SureFood® GMO SCREEN
- Fast and comprehensive analysis
- Result whether GMOs are present or not

Mutliplex Identification

SureFood® GMO ID
- Specific detection method for the exclusion of unauthorized GMOs
- There is a 0 % tolerance for unauthorized GMOs in the EU

Relative Quantification

SureFood® GMO QUANT
- According to EU Regulation EC1829/2003 and EC 1830/2003 - food must be labeled with a permissible GMO content of > 0.9 % per matrix
- Regulation EC 619/2011 applies to feed
- The quantification of GMO events is proportional to the respective plant matrix

Your benefits

User-friendly:
- Standardized sample preparation, qPCR set up and thermo profiles
- Extracted DNA can be used for additional tests (e.g. allergens)
- Simultaneous qPCR analysis GMO and allergen samples

Time saving:
Semi-automated DNA extraction and multiplex kits

Everything from a single source:
Kits, Equipment, Support

Flexible:
qPCR cycler: FAM, VIC, HEX, Cy5

Screening table of common crops containing GMO's

Due to the combination of different vectors, it is possible to include/exclude the presence of certain GMO events.

GMO event	OECD	S2126			S2127				S2128
		P-35S	T-NOS	FMV	BAR	NPTII	pat	CTP2:CP4E PSPS	CrylAb
Soya									
A2704-12	ACS-GMØØ5-3	+	–	–	–	–	+	–	–
A5547-127	ACS-GMØØ6-4	+	–	–	–	–	+	–	–
DAS-68416-4	DAS-68416-4	–	–	–	–	–	+	–	–
DAS-81419	DAS-81419-2	–	–	–	–	–	+	–	–
DAS-44406-6	DAS-44406-6	–	–	–	–	–	+	–	–
DP-305423	DP-3Ø5423-1	–	–	–	–	–	–	–	–
FG72	MST-FGØ72-2		+	–	–	–	–	–	–
FG72 x A5547-127	MST-FGØ72-2 x ACS-GMØØ6-4	+	+	–	–	–	+	–	–
GMB151	BCS-GM151-6	+	–	–	–	–	–	–	–
GTS 40-3-2 (RR-Sox)	MON-Ø4Ø32-6	+	+	–	–	–	–	–	–
MON87705	MON-877Ø5-6	–	–	+	–	–	–	+	–
MON87751	MON-87751-7	–	–	–	–	–	–	–	+
MON87769 x MON89788	MON-87769-7 x MON-89788-1	–	–	+	–	–	–	+	–
MON87701	MON-877Ø1-2	–	–	–	–	–	–	–	–
MON87701 x MON89788	MON-877Ø1-2 x MON-89788-1	–	–	+	–	–	–	+	–
MON87708 x MON89788	MON-877Ø8-9 x MON-89788-1	–	–	+	–	–	–	+	–
MON87708	MON-877Ø8-9	–	–	–	–	–	–	–	–
MON87705 x MON89788	MON-877Ø5-6 x MON-89788-1	–	–	+	–	–	–	+	–
SYHTOH2	SYN-ØØØH2-5	+	+	–	–	–	+	–	–
Corn									
59122	DAS-59122-7	+	–	–	–	–	+	–	–
Bt11	SYN-BTØ11-1	+	+	–	–	–	+	–	+
GA21	MON-ØØØ21-9	–	+	–	–	–	–	–	–
MON810	MON-ØØ81Ø-6	+	–	–	–	–	–	–	–
MIR162	SYN-IR162-4	–	+	–	–	–	–	–	–
MIR604	SYN-IR6Ø4-5	–	+	–	–	–	–	–	–
MON87411	MON87411-9	+	–	–	–	–	–	+	–
MON87419	MON-87419-8	–	–	–	–	–	+	–	–
MON87427	MON-87427-7	+	+	–	–	–	–	+	–
MON87460	MON-8746Ø-4	+	+	–	–	+	–	–	–
MON88017	MON-88Ø17-3	+	+	–	–	–	–	+	–
MON89034	MON-89Ø34-3	+	+	+	–	–	–	–	–
MZHGOJG	SYN-ØØØJG-2	+	+	–	–	–	+	–	–
NK603	MON-ØØ6Ø3-6	+	+	–	–	–	–	+	–
NK603 x MON810	MON-ØØ6Ø3-6 x MON-ØØ81Ø-6	+	+	–	–	–	–	+	+
NK603 x T25	MON-ØØ6Ø3-6 x ACS-ZMØØ2-1	+	+	–	–	–	+	–	–
T25	ACS-ZMØØ3-2	+	–	–	–	–	+	–	–
T25 x MON810	ACS-ZMØØ3-2 x MON-ØØ81Ø-6	+	–	–	–	–	–	–	–
T25 /T14	ACS-ZMØØ2-1, ACS-ZMØØ3-2	+	–	–	–	–	+	–	–
TC1507	DAS-Ø15Ø7-1	+	–	–	–	–	+	–	–
Canola									
73496	DP-Ø73496-4	–	–	–	–	–	–	–	–
GT73 (RT73)	MON-ØØØ73-7	–	–	+	–	–	–	+	–
MON88302	MON-883Ø2-9	–	–	+	–	–	–	+	–
T45 (HCN28)	ACS-BNØØ8-2	+	–	–	–	–	+	–	–
Cotton									
GHB614 x LLCotton25	BCS-GHØØ2-5 x ACS-GHØØ1-3	+	+	–	+	–	–	–	–
LLCotton25	ACS-GHØØ1-3	+	+	–	+	–	–	–	–
MON15985	MON-15985-7	+	+	–	–	+	–	+	–
MON88913	MON-88913-8	+	–	+	–	–	–	+	–
MON531	MON-ØØ531-6	+	+	–	–	+	–	–	–
T304-40	BCS-GHØØ4-7	+	+	–	+	–	–	–	+

Please note: The table only shows examples and is not complete.

SureFood® GMO kits

Product	No. of tests/amount	Art. No.	
SureFood® PREP – DNA-preparation			
SureFood® PREP Basic	100 preparations	S1052	
SureFood® PREP Advanced	50 preparations	S1053	
SureFood® PREP Add-On (For 2 g samples; in combination with SureFood® PREP Basic)	15 preparations	S1055	
SureFast® Mag PREP Food	96 preparations	F1060	
Extraction control detection kit			
SureFast® Animal + Plant Control 3plex	100 reactions	F4053	
SureFood® GMO			
SureFood® GMO Plant PLUS	100 reactions	S2049	
SureFood® GMO Plant 4plex Corn/Soya/Canola/Cotton	100 reactions	S2156	
SureFood® GMO Plant 4plex Corn/Soya/Canola+IAC	100 reactions	S2158	
SureFood® GMO SCREEN – qualitative real-time PCR			
SureFood® GMO SCREEN 4plex 35S/NOS/FMV+IAC	100 reactions	S2126	
SureFood® GMO SCREEN 4plex BAR/PAT/NPTII/CTP2:CP4 EPSPS	100 reactions	S2127	
SureFood® GMO SCREEN CaMV	100 reactions	S2027	
SureFood® GMO SCREEN 4plex BAR/PAT/CryIAb/CTP2:CP4 EPSPS	100 reactions	S2128	
SureFood® GMO ID – qualitative real-time PCR			
Canola			
SureFood® GMO ID 4plex Canola I	100 reactions	S2166	MS8/6GT73/T45 Canola
SureFood® GMO ID 4plex Canola II	100 reactions	S2167	MON88302/DP0734906/RF3 Canola
Corn			
SureFood® GMO ID DAS-40278-9 Corn	100 reactions	S2140	
SureFood® GMO ID 4plex Corn I	100 reactions	S2170	MON810/TC1507/NK603/MON89034
Rice			
SureFood® GMO ID Bt63 Rice	2 × 50 reactions	S2024	
Soya			
SureFood® GMO ID 4plex Soya I	100 reactions	S2161	MON87708+CV127/DP305423/MON87701/MON87769
SureFood® GMO ID 4plex Soya II	100 reactions	S2162	RR-Soya/RR-2Yield Soya/A2704-12/A5547-127
SureFood® GMO ID 4plex Soya III	100 reactions	S2164	FG72-Soya/DAS68416-Soya/GMB151-Soya/DAS44406-Soya
SureFood® GMO ID 4plex Soya IV	100 reactions	S2165	MON87705, DAS81419, MON87751, SYHT0H2
SureFood® GMO ID 4plex EU SOYA	100 reactions	S2163	DP-305423, MON87769, CV127, MON87708, MON87701, DAS-44406, DAS-68416, FG72, GMB151, MON87705, MON87751, DAS-81419, SYHT0H2, MON89788, A2704-12, GTS 40-3-2, A5547-127
Wheat			
SureFood® GMO ID HB4 Wheat	100 reactions	S2036	
SureFood® GMO QUANT – quantitative real-time PCR			
Corn			
SureFood® GMO QUANT Bt176 Corn	2 × 50 reactions*	S2015	
SureFood® GMO QUANT Bt11 Corn	2 × 50 reactions*	S2016	
SureFood® GMO QUANT T25 Corn	2 × 50 reactions*	S2017	
SureFood® GMO QUANT MON810 Cornx	2 × 50 reactions*	S2019	
SureFood® GMO QUANT 35S Corn	2 × 50 reactions*	S2020	
SureFood® GMO QUANT MON863 Corn	2 × 50 reactions*	S2051	
SureFood® GMO QUANT TC1507 Corn	2 × 50 reactions*	S2081	
SureFood® GMO QUANT MIR162 Corn	2 × 50 reactions*	S2135	
Canola			
SureFood® GMO GT73 Canola	2 × 50 reactions*	S2061	
Soya			
SureFood® GMO QUANT Roundup Ready Soya	2 × 50 reactions*	S2014	
SureFood® GMO QUANT 35S Soya	2 × 50 reactions*	S2028	
SureFood® GMO QUANT RR2Y Soya	2 × 50 reactions*	S2029	
Reference material			
SureFood® GMO Plant Reference Sample	2 grams	S2150	(0.1 % non-GMO soya, maize, canola, rice)

*1 × 50 reactions to quantify the reference gene.



SureFood® PREP Basic, Art. No. S1052



SureFood® GMO SCREEN