

PowerChek™ GMO Testing Kit Series

# Total solution for GMO testing

Screening · Event ID · Quantification · DNA Extraction



## GMO Screening

- Universal GMO Screening
- GM-Soy Screening
- GM-Maize Screening

## GMO ID & Quant

- GM-Soy
- GM-Maize

## DNA Extraction

- General Food & Feed
- Highly Processed Food
- Rice & Seed

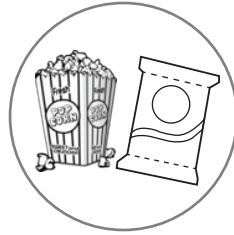
# Work Flow for GMO Testing

## 1. For DNA extraction, check you sample type !



### Raw Material

- Rice, seed, grain
- Plant, stem, leaf



### General Food & Feed

- Soybean, corn, kernel
- Ground powder, raw material
- General processed food : tofu, snack, ready-to-eat food *etc.*
- Animal feed



### Highly Processed Food

- Highly processed sample
- Liquid sample : soy sauce, vinegar, oil *etc.*
- Cosmetics, medicine



### Gelatin Sample

- Various samples including gelatin
- Processed food
- Pharmaceutical products



E0006  
GMO Extraction Kit II



E0002  
DNA Extraction from Food & Feed Kit



E0001  
GMO Extraction Kit



E0103  
Gelatin DNA Extraction Kit

## 2. What is your testing purpose?

### GMO Screening



R2026 **HIT**  
Multiplex Universal GMO Screening Real-time PCR Kit

R2020 **HIT**  
Universal GMO Screening Real-time PCR Kit

### Event ID



R2001E **HIT**  
GM Soy RRS Real-time PCR Kit

R2007E **HIT**  
GM Maize MON810 Real-time PCR Kit

### Quantification



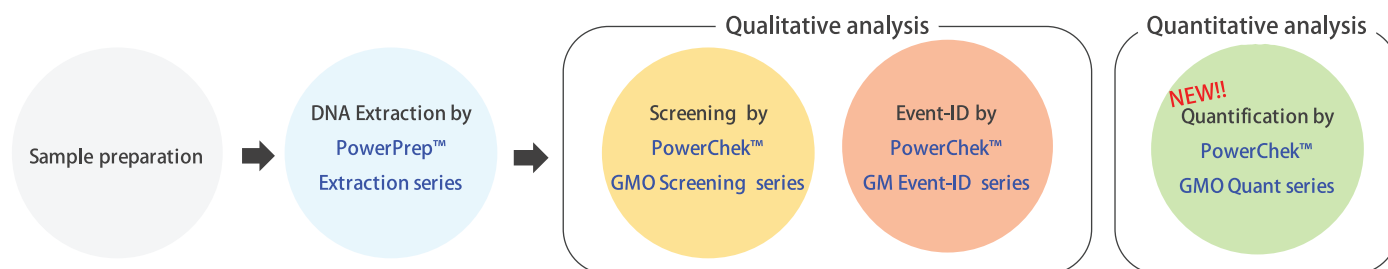
R2501 **NEW!!**  
GM RRS Quant Kit

R2502 **NEW!!**  
GM MON810 Quant Kit

# GMO Screening

## Extended parameters

### Total solution for GMO testing ; from Extraction to Quantification



### GMO Screening Kit series

Cat No.	Product	Size	Detection Targets	Fluorophore
<b>NEW!!</b> R2040	PowerChek™ Multiplex Universal GMO Screening II Real-time PCR Kit	50 tests	<ul style="list-style-type: none"> <li>▪ 35S-promoter</li> <li>▪ NOS-terminator</li> <li>▪ FMV</li> <li>▪ Plant reference gene</li> <li>▪ IC</li> </ul>	<ul style="list-style-type: none"> <li>▪ FAM</li> <li>▪ VIC</li> <li>▪ ROX (NED)</li> <li>▪ Cy5</li> </ul>
<b>NEW!!</b> R2096	PowerChek™ Multiplex Universal GMO Screening III Real-time PCR Kit	50 tests	<ul style="list-style-type: none"> <li>▪ 35S-promoter</li> <li>▪ NOS-terminator</li> <li>▪ FMV</li> <li>▪ <i>bar</i></li> <li>▪ CTP2-CP4_EPSPS</li> <li>▪ Plant reference gene</li> <li>▪ IC</li> </ul>	<ul style="list-style-type: none"> <li>▪ FAM</li> <li>▪ VIC</li> <li>▪ ROX (NED)</li> <li>▪ Cy5</li> </ul>
<b>HIT</b> R2026	PowerChek™ Multiplex Universal GMO Screening Real-time PCR Kit	50 tests	<ul style="list-style-type: none"> <li>▪ 35S-promoter</li> <li>▪ NOS-terminator</li> <li>▪ FMV</li> <li>▪ IC</li> </ul>	<ul style="list-style-type: none"> <li>▪ FAM</li> <li>▪ VIC</li> <li>▪ ROX (NED)</li> <li>▪ Cy5</li> </ul>
<b>HIT</b> R2020	PowerChek™ Universal GMO Screening Real-time PCR Kit	50 tests	<ul style="list-style-type: none"> <li>▪ 35S-promoter</li> <li>▪ NOS-terminator</li> <li>▪ <i>bar</i></li> <li>▪ FMV</li> <li>▪ Plant reference gene</li> <li>▪ IC</li> </ul>	<ul style="list-style-type: none"> <li>▪ FAM</li> <li>▪ FAM</li> <li>▪ FAM</li> <li>▪ FAM</li> <li>▪ FAM</li> <li>▪ VIC</li> </ul>
R2029	PowerChek™ GMO Screening Real-time PCR Kit	50 tests	<ul style="list-style-type: none"> <li>▪ 35S-promoter</li> <li>▪ NOS-terminator</li> <li>▪ Plant reference gene</li> <li>▪ IC</li> </ul>	<ul style="list-style-type: none"> <li>▪ FAM</li> <li>▪ FAM</li> <li>▪ FAM</li> <li>▪ VIC</li> </ul>
R2000	PowerChek™ GM Soy Screening Real-time PCR Kit	50 tests	<ul style="list-style-type: none"> <li>▪ 35S-promoter</li> <li>▪ NOS-terminator</li> <li>▪ Lectin (soy reference gene)</li> </ul>	<ul style="list-style-type: none"> <li>▪ FAM</li> <li>▪ FAM</li> <li>▪ FAM</li> </ul>
R2002	PowerChek™ GM Maize Screening Real-time PCR Kit	50 tests	<ul style="list-style-type: none"> <li>▪ 35S-promoter</li> <li>▪ NOS-terminator</li> <li>▪ SS II b (maize reference gene)</li> </ul>	<ul style="list-style-type: none"> <li>▪ FAM</li> <li>▪ FAM</li> <li>▪ FAM</li> </ul>
R2043	PowerChek™ GMO Screening P35S & PNOS-nptII Real-time PCR Kit	50 tests	<ul style="list-style-type: none"> <li>▪ p35S &amp; pNOS-nptII</li> <li>▪ IC</li> </ul>	<ul style="list-style-type: none"> <li>▪ FAM</li> <li>▪ VIC</li> </ul>
R2044	PowerChek™ GMO Screening P35S-pat Real-time PCR Kit	50 tests	<ul style="list-style-type: none"> <li>▪ p35S-pat</li> <li>▪ IC</li> </ul>	<ul style="list-style-type: none"> <li>▪ FAM</li> <li>▪ VIC</li> </ul>
R2045	PowerChek™ GMO Screening CTP2-CP4EPSPS Real-time PCR Kit	50 tests	<ul style="list-style-type: none"> <li>▪ CTP2-CP4EPSPS</li> <li>▪ IC</li> </ul>	<ul style="list-style-type: none"> <li>▪ FAM</li> <li>▪ VIC</li> </ul>

# Event ID

## Identification of GM-soy or GM-maize event

### Compatibility : Flexible Open System

● All products are compatible.



	Thermo Fisher Scientific		Bio-Rad		Roche		Agilent	Qiagen
	ABI® 7500	Quant Studio 5	CFX96	iCycler IQ5	Light Cycler®480	Light Cycler®96	Mx3005P	Rotor-Gene Q
GMO Screening	●	●	●	●	●	●	●	●
Event ID Series	●	●	●	●	●	●	●	●

ABI Prism® 7500 series and QuantStudio 5™ are registered trademarks of Thermo Fisher Scientific. CFX96™ is a registered trademark of Bio-Rad Laboratories, Inc. Qiagen® is a registered trademark of Qiagen, Inc. Light Cycler® is a trademark of Hoffman-LaRoche Inc. Rotor-Gene® is a registered trademark of Corbett Research Pty Ltd. Mx3005PTM is a registered trademark of Agilent Technologies.

### GM Event ID Kit series; Please contact us about extra GM-event!!

Cat No.	Product	Fluorophore	Size
R2001E	PowerChek™ GM Soy RRS Real-time PCR Kit	FAM/VIC(HEX)	50
R2017E	PowerChek™ GM Soy MON89788 Real-time PCR Kit	FAM/VIC(HEX)	50
R2018E	PowerChek™ GM Soy A2704-12 Real-time PCR Kit	FAM/VIC(HEX)	50
R2021E	PowerChek™ GM Soy DP305423-1 Real-time PCR Kit	FAM/VIC(HEX)	50
R2022E	PowerChek™ GM Soy DP356043-5 Real-time PCR Kit	FAM/VIC(HEX)	50
R2003E	PowerChek™ GM Maize Bt176 Real-time PCR Kit	FAM/VIC(HEX)	50
R2004E	PowerChek™ GM Maize Bt11 Real-time PCR Kit	FAM/VIC(HEX)	50
R2005E	PowerChek™ GM Maize GA21 Real-time PCR Kit	FAM/VIC(HEX)	50
R2006E	PowerChek™ GM Maize T25 Real-time PCR Kit	FAM/VIC(HEX)	50
R2007E	PowerChek™ GM Maize MON810 Real-time PCR Kit	FAM/VIC(HEX)	50
R2008E	PowerChek™ GM Maize NK603 Real-time PCR Kit	FAM/VIC(HEX)	50
R2009E	PowerChek™ GM Maize TC1507 Real-time PCR Kit	FAM/VIC(HEX)	50
R2010E	PowerChek™ GM Maize MON863 Real-time PCR Kit	FAM/VIC(HEX)	50
R2011E	PowerChek™ GM Maize DAS59122-7 Real-time PCR Kit	FAM/VIC(HEX)	50
R2012E	PowerChek™ GM Maize MIR604 Real-time PCR Kit	FAM/VIC(HEX)	50
R2013E	PowerChek™ GM Maize MON88017 Real-time PCR Kit	FAM/VIC(HEX)	50
R2014E	PowerChek™ GM Maize CBH351(Starlink) Real-time PCR Kit	FAM/VIC(HEX)	50
R2016E	PowerChek™ GM Maize MON89034 Real-time PCR Kit	FAM/VIC(HEX)	50
R2023E	PowerChek™ GM Maize Event3272 Real-time PCR Kit	FAM/VIC(HEX)	50
R2024E	PowerChek™ GM Maize DP098140-6 Real-time PCR Kit	FAM/VIC(HEX)	50
R2025E	PowerChek™ GM Maize MIR162 Real-time PCR Kit	FAM/VIC(HEX)	50

**NEW!!** Quantification  
Quantification of GM-soy & GM-maize event

PowerChek™ GM Event Quant Kit series are intended for quantification of a specific GM-event using Real-time PCR assay. The kit provides a simple and rapid molecular method for the GMO quantification in various food. The Kit enables relative quantification of as little as 0.1% of each event sequence with respect to total amount in a sample.



**GM Event Quant Kit series**

Cat No.	Product	Fluorophore	Size
R2501	PowerChek™ GM RRS Quant Kit	FAM/VIC(HEX)	50
R2502	PowerChek™ GM MON810 Quant Kit	FAM/VIC(HEX)	50

**Full Work Flow**



**Various food & feed samples**

- Soybean, corn, kernel
- Ground powder, raw material
- General and processed food samples

**DNA Extraction : 1.5 hrs**

- GMO Extraction Kit series
- DNA Extraction from Food & Feed Kit

**PCR Reaction Mix**

- GMO Screening Kit series
- Event ID Kit series
- Quantification Kit series

**Real-time PCR Run : 1.5 hrs**

Compatible with various platform

**Benefits & Features**



- Easy to Use
- Complete Solution Kit
  - Quant Control DNA
  - Standard DNA
  - Master Mix
  - Primer/Probe Mix
  - Dilution Buffer
  - Internal Control included



## Related Product

# DNA Extraction Kit

Food and feed production involving mechanical stress, heat, pH variations, enzymatic activities and fermentations affect the primary structure of DNA and lead to the fragmentation of DNA. PowerPrep™ DNA Extraction Kit series provide accurate and simple test that isolated DNA can lead to process more samples in less time. The DNA extraction kits can be selected due to the purpose of testing, the kind of samples and subsequent experiment.

Please refer to below table.



## Choice of DNA Extraction Kits for various sample matrix

- Easy to use
- Simple & quick procedure : less than 100 mins
- Efficient extraction & purification from complex food matrices
- Scalable reagent volume by the samples
- High binding capacity of column & resin
- Especially for highly processed food



## DNA Extraction Kits for GMO testing

Cat No.	Size (Samples)	Product	Purpose	Application	Purification module	Sample Scale	Note
E0002	100	PowerPrep™ DNA Extraction from Food and Feed Kit	General food and feed	<ul style="list-style-type: none"> <li>▪ Plant, tissue, crop</li> <li>▪ Soybean, corn, kernel</li> <li>▪ Ground powder, raw material</li> <li>▪ General processed food : tofu, snack, meat, ready-to-eat food <i>etc.</i></li> <li>▪ Animal feed</li> </ul>	Silica spin column	Small to large	-
E0103	50	<b>NEW!!</b> PowerPrep™ Gelatin DNA Extraction Kit	Various gelatin samples and highly processed food and feed samples	<ul style="list-style-type: none"> <li>▪ Gelatin, gelatin processed food</li> <li>▪ Marshmallow, hard and soft capsules</li> <li>▪ Various samples including gelatin</li> </ul>	Silica spin column	Small to large	-
E0001	100	PowerPrep™ GMO Extraction Kit	Highly processed food and liquid samples	Soy sauce, vinegar, oil, sugar, starch, lecithin, cosmetics and medicine <i>etc.</i>	Silica resin	Large	-
E0006	100	PowerPrep™ GMO Extraction Kit II	Rice and seed	Rice, seed and the samples including starch	Silica spin column	Small	Including α-amylase