

# See what you eat

DualChip<sup>®</sup> GMO Kit V2.0



### A new dimension in GMO screening

### DualChip<sup>®</sup> GMO Kit V2.0

The DualChip GMO Kit V2.0 is a multiplex screening tool for EU-authorized and non-authorized GMOs, successfully validated in collaboration with the Joint Research Centre (JRC) of the European Union\*.

The simultaneous detection of multiple GMO-specific elements, plant-species markers and control elements offers a time-sensitive and robust solution for GMO screening in food, feed and seed.

Optimized components assure best results and an incorporated software tool provides concise result reports with a few simple clicks.

#### Screen and identify - the new content

Unique combination of plant-species, construct-specific and event-specific targets in one assay

Simultaneous detection of 30 transgenic elements for testing of GMOs in samples with unknown content

#### Principle - as easy as this

- PCR-based amplification of target DNA with biotinylated primers
- Microarray-based detection of amplicons with specific **DNA** capture-probes
- Silver-based staining of hybridized targets using Eppendorf proprietary Silverquant® System
- Two independent tests per slide

#### To get started - The "All-in-One" System

- Kit components include beside the microarrays all reagents necessary for amplification, labeling, hybridization including process controls
- Application-specific software tool is included, providing convenient analysis
- Comprehensive "All-in-One" system for array processing, target detection and slide scanning.

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**DNA** extraction from food or feed sample

iplex

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Figure 2: Spotting pattern of probes and controls present on the DualChip GMO V2.0

\* http://bgmo.jrc.ec.europa.eu/home/documents/report-JRC-EAT.pdf



gure 1: DualChip GMO Kit workflow

#### Content

#### PCR S: Twelve screening elements:

p35S, tNos, pat, cry1Ab (3 gene varieties), cry3Bb1, EPSPS (3 gene varieties), bar, pNos-nptII

#### PCR P: Seven plant-specific markers for:

Maize, Soybean, Rapeseed, Cotton, Rice, Potato, Sugar beet

#### PCR E: Eleven event-specific markers for: Bt11, Bt176, GA21, GT73, MON531, MON810,

MON863, MON1445, MON15985, RRS,T45

#### **Control elements:**

CaMV virus contamination control Positive PCR control (PCRC) Positive and negative hybridization control (PHC, NHC) Positive and negative detection control (PDC, NDC)

#### Specifications

- Accuracy of 95% established in ring-trial study
- Proven sensitivity of 0.1% for all transgenic elements and 1% for all plant-specific markers
- All capture-probes (incl. controls) spotted in triplicate
- Tight monitoring of handling and results due to sophisticated control system for each step
- Standardized, sample-independent protocol
- High specificity from 2 independent sequence-specific steps
  - specific primers for the PCR reaction
  - specific capture probes for the hybridization
- Convenient software tool for concise report generation

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		Array variability	OK			

Figure 3: Example of DualChip GMO result table

## DualChip® GMO Kit V2.0



DualChip GMO software tool for analysis of results and generation of ISO 17025-conform report accessible by download from: www.eppendorf-biochip.com/downloads

#### Additional Hardware and Reagents

- Silverquant<sup>®</sup> Microarray Detection Kit for staining of 16 DualChip GMO microarrays
- Silverquant Microarray Scanning System for scanning and raw data analysis
- Thermomixer<sup>®</sup> comfort for simultaneous mixing and temperature control during hybridization
- Silverquant adapter for incubation of microarray slides during Silverquant staining

#### **Ordering information**

Description	Order No. International	Order No. North America
$DualChip^{\textcircled{B}}$ GMO Kit V2.0 (8 slides for 16 multiplex tests incl. reagents and software)	0038 004.032	956014200
Silverquant scanner system (software included)	6000 000.106	956030030
Silverquant detection kit	0038 005.000	956015073
Silverquant adapter	5368 000.037	956015090
Thermomixer comfort (without exchangeable thermoblock)	5355 000.011 (220V)	022670107 (120V) 022670158 (220V)
Exchangeable thermoblocks and accessories for 4 slides for hybridization experiments	5368 000.010	022670590

\* The QIAGEN Multiplex PCR Kit is intended for research use. No claim or representation is intended for its use to provide information for the diagnosis, prevention of treatment of a disease. This product is intended to be used for research purposes only.

The DualChip GMO Kit V2.0 is intended to be used for research purposes only.



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