hygiena MON89034 GMO Maize Multiplex Detection Kit User Guide

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hygiena MON89034 GMO Maize Multiplex Detection Kit

GMO Maize Multiplex Detection Kit
Specifications

- **Product Name**: GMO Maize Multiplex Detection Kit
- **Product Number:** KIT230218
- **Revision:** A
- **Date:** December 2023
- PCR Kit for the qualitative detection of MON89034, CBH351, and Bt176 DNA
- Designed for use with real-time PCR instruments
- **Kit Size:** 50 reactions
- For in vitro use only

Program Setup
Before setting up the PCR reactions, you need to program your real-time PCR instrument. Follow these steps:

1. **Select the following channels on your instrument:**
    - FAM (MON89034)
    - VIC/HEX (CBH351)
    - ROX (Bt176)
    - Cy5 (Internal Control)
2. **Set the following cycling parameters:**
    - 2 minutes at 95°C
    - 10 minutes at 60°C
    - 1 cycle
    - 15 seconds at 95°C
    - 60 seconds at 60°C*
    - 40 cycles

Fluorescence detection

- **Note:** For some real-time PCR instruments, you may need to specify the probe quencher and the usage of a passive reference dye. This kit contains probes with a non-fluorescent dark quencher and no passive reference dye. Data Interpretation
- Before interpreting sample results, it is important to verify the results of positive (Control Template) and negative controls (H2O). Always compare your samples to the positive and negative controls. Review the data from each channel and interpret the results as described in the table below:

	FAM	VIC/HEX	ROX	Cy5
Positive Result	+	+	+	+
Negative Result	–	–	–	–
Result Interpretation	Positive for MON89034, CBH351, and Bt176	Positive for CBH351 and Bt176	Positive for MON89034 and Bt176	Positive for MON89034 and CBH351
	Positive for CBH351	Positive for MON89034	Positive for Bt176	Negative for MON89034, CBH351, and Bt176
	Invalid			

Preparation of the PCR Mix
Before starting the PCR reactions, please follow these steps to prepare the PCR mix:
Take appropriate precautions to prevent contamination, such as using filter tips and wearing gloves.

1. Thaw the reagents and briefly spin the vials before opening (do not vortex!).
2. Prepare the PCR mix for each reaction in a suitable tube. The number of reactions should include the samples, controls, and at least one additional reaction to cover pipetting loss.
3. Mix the PCR mix carefully but thoroughly by pipetting up and down.
4. Add the PCR mix to the designated wells or tubes.
5. Add your samples and controls to the appropriate wells or tubes.
6. Carefully seal the strips or plate to prevent contamination.
7. Briefly spin the strips or plate in a suitable centrifuge.
8. Start the real-time PCR run according to the program setup instructions.

Frequently Asked Questions (FAQ)

1. **Can this kit be used for food testing purposes?**
   Yes, this kit can be used for food testing purposes.
2. **What is the size of this kit?**
   This kit contains enough reagents for 50 reactions.
3. **Can this kit be used for any other applications?**
   No, this kit is designed for in vitro use only and should not be used for any other applications.

foodproof® SL

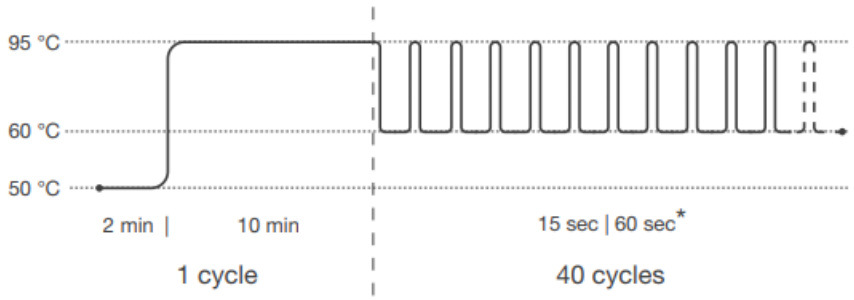
- GMO Maize Multiplex Detection Kit (GA21, MIR604)
- Ready Reference Guide

Revision A, December 2023

- Product No. KIT230217
- PCR kit for the qualitative detection of GA21 and MIR604 DNA using real-time PCR instruments.
- Before starting, it is strongly recommended to read the entire product manual available on our website.

PROGRAM SETUP

- Program your real-time PCR instrument before setting up the PCR reactions. Select the following channels:
- FAM (GA21), VIC/HEX (MIR604) and Cy5 (Internal Control).



- **Pre-incubation: 1 cycle**
  - **Step 1:** 50 °C for 2 min
  - **Step 2:** 95 °C for 10 min
- **Amplification: 40 cycles**
  - **Step 1 :** 95 °C for 15 sec
  - **Step 2:** 60 °C for 60 sec

    Fluorescence detection

For some real-time PCR instruments the probe quencher as well as the usage of a passive reference dye has to be specified. This kit contains probes with a non-fluorescent “dark” quencher and no passive reference dye.

DATA INTERPRETATION

Verify results of positive (Control Template) and negative controls (H2O), before interpreting sample results. Always compare samples to positive and negative control. Review data from each channel and interpret results as described in the table.

FAM	VIC/HEX	Cy5	Result Interpretation
+	+	+ or –	Positive for GA21 and MIR604
–	+	+ or –	Positive for MIR604
+	–	+ or –	Positive for GA21
–	–	+	Negative for GA21 and MIR604
–	–	–	Invalid

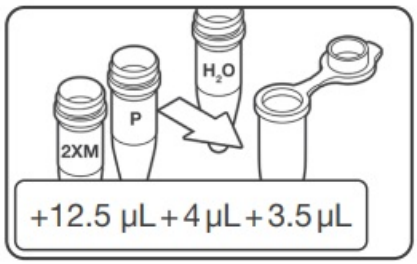
PREPARATION OF THE PCR MIX

Take appropriate precautions to prevent contamination, e.g., by using filter tips and wearing gloves. Thaw reagents, mix (do not vortex!) and briefly spin vials before opening.

1. **PREPARE PCR MIX**

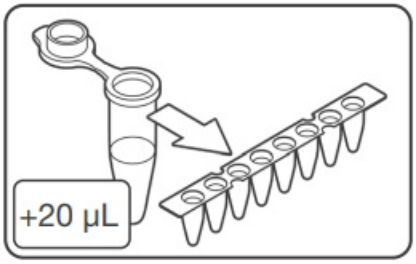
   Add 12.5 µL Master Mix (2XM),
   4.0 µL Primer/Probe Mix (P) and
   3.5 µL PCR-grade H_2O (not included) } for each reaction to a suitable tube.

   (n samples + 2 controls + at least one additional reaction to cover pipetting loss). Mix carefully but thoroughly by pipetting up and down.



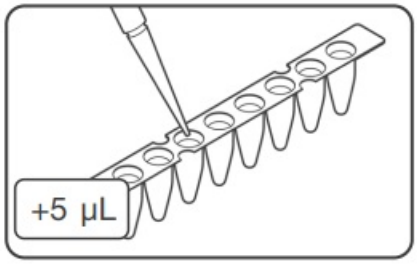
2. **ADD PCR MIX**

   Pipette 20 µL of prepared PCR mix into each strip or plate well.



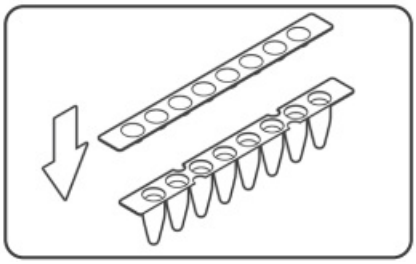
3. **ADD SAMPLES AND CONTROLS**

   Pipette 5 µL of samples, negative control (PCR-grade H2O) or Control Template (C) into respective wells.



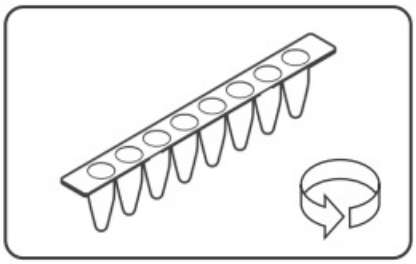
4. **SEAL**

   Carefully seal strips/plate.



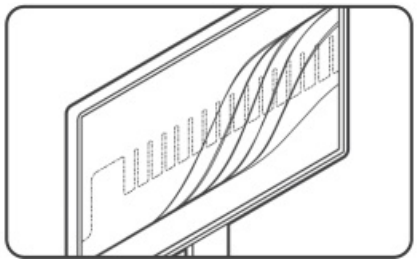
5. **CENTRIFUGE**

   Briefly spin strips/plate in a suitable centrifuge.



6. **START REAL-TIME PCR RUN**

   Cycle samples as described above.



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- SL GMO Maize Multiplex Detection Kit (GA21, MIR604)
- KIT230217
- Kit for 50 reactions Store kit at -15 to -25 °C
- For food testing purposes FOR IN VITRO USE ONLY

Hygiena®

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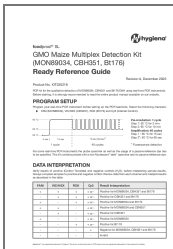
Documents / Resources



GMO Maize Multiplex Detection Kit
(MON89034, CBH351, Bt176)
Ready Reference Guide

PROGRAM SETUP

DATA INTERPRETATION

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MON89034, CBH351, Bt176, MON89034 GMO Maize Multiplex Detection Kit, GMO Maize Multiplex Detection Kit, Maize Multiplex Detection Kit, Multiplex Detection Kit, Detection Kit, Kit

References

- Home | Hygiena
- User Manual