SOLIS BIODYNE

Data Sheet

# HOT FIREPol® MultiPlex Mix with 10 mM $MgCl_2$, 5x

| Cat. No. | Pack Size | 20 µl rxn |
|---|---|---|
| 04-34-00S20 | 0,1 ml | 25 |
| 04-34-00120 | 1 ml | 250 |
| 04-34-00120-5 | 5 x 1 ml | 1250 |
| 04-34-00120-10 | 10 x 1 ml | 2500 |
| 04-34-02020 | 20 ml | 5000 |

For *in vitro* use only

**Description:**
HOT FIREPol® MultiPlex Mix is a 5x-concentrated ready-to-use solution containing all reagents required for hot-start multiplex PCR (except template, primers and water). The product is optimized for amplification of up to 18 targets in a single reaction.

**Applications:**
- Hot Start PCR
- Multiplex PCR

**Mix Composition:**
- **HOT FIREPol® DNA polymerase**
- **5x MultiPlex Buffer**
- **10 mM $MgCl_2$**
  *1x PCR solution – 2 mM $MgCl_2$*
- **dNTPs**
- **BSA**
- **Compound that increases sample density for direct loading**

**Shipping and Storage conditions:**
Routine storage: -18ºC to -28ºC
Shipping and temporary storage for up to 1 month at room temperature or storage for up to 6 months at 2–8ºC has no detrimental effects on the quality of the product.

Manufactured by Solis BioDyne in compliance with the ISO 9001 and ISO 13485 certified Quality Management System.

**FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.**

**Recommendations:**
Reaction setup at room temperature.

**Recommended PCR reaction mix:**

| Component | Volume | Final conc. |
|---|---|---|
| HOT FIREPol® MultiPlex Mix (5x) | 4 µl | 1x |
| Forward primer (10 µM) | 0.2–0.6µl | 0.1–0.3 µM (each) |
| Reverse primer (10 µM) | 0.2–0.6µl | 0.1–0.3 µM (each) |
| Template DNA | variable | variable[1] |
| $H_2O$ | Up to 20 µl | |

[1] Conc. of cDNA 0.01 pg/µl–0.1 ng/µl; gDNA 0.1 ng/µl–10 ng/µl

**Recommended PCR cycling protocol:**

| Operation | Temp. | Time | Cycles |
|---|---|---|---|
| **Initial activation[1]** | **95ºC** | **12 min** | 1 |
| Denaturation | 95ºC | 20-30 s | 25-30 |
| Annealing[2] | 58-62ºC | 30-60 s | |
| Extension[3] | 72ºC | 30 s - 3 min | |
| Final extension | 72ºC | 5-10 min | 1 |

[1] To activate the polymerase, include an incubation step **at 95ºC for 12 minutes** at the beginning of the PCR cycle.

[2] The annealing temperature (Ta) depends on the melting temperature (Tm) of the primers. A Ta that is about 2 to 5°C lower than the Tm of the primers is generally suitable. Performing temperature gradient is recommended.

[3] Extension time depends on the length of the fragment to be amplified. A time of 1 min/kb is recommended.

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**Troubleshooting:**

**For troubleshooting the following additives may be included with your order free of charge upon request:**

- **25 mM $MgCl_2$** (Cat. No. 05-11-00025) can be used for optimization of the $MgCl_2$ concentration. The 1x PCR mix solution of 2 mM $MgCl_2$ gives satisfactory results in most applications. If necessary, the $MgCl_2$ concentration may be increased in 0.25–1 mM increments up to 5 mM concentration.
- **10x GC-rich Enhancer** (Cat. No. 05-16-00010) can be used for optimization with GC-rich templates. It modifies the melting behavior of nucleic acids and enhances the amplification of regions with secondary structures and high GC-content. 10x GC-rich Enhancer should be used at a defined working concentration (1x, 2x or 3x solution) and only if non-specific amplification occurs.
- **100% DMSO** is recommended as a PCR additive for templates with high GC content. In some cases, DMSO is also required to relax secondary structures. For optimization DMSO concentration can be raised in 2.5% increments up to 10%.

**Safety warnings and precautions:**
This product and its components should be handled only by persons trained in laboratory techniques. It is advisable to wear suitable protective clothing, such as laboratory overalls, gloves and safety glasses. Care should be taken to avoid contact with skin or eyes. In case of contact with skin or eyes, wash immediately with water. Refer to Safety Data Sheet for more information

**Technical support:**
Contact your sales representative for any questions or send an email to support@solisbiodyne.com

Online chat is available at www.solisbiodyne.com

DS-04-34 v2
Revised 18.06.2021