



5x HOT FIREPol® MultiPlex Mix

with 10 mM MgCl₂

for amplification of up to 20 targets in a single reaction

Cat. No.	Pack Size	Conc. (MgCl ₂)
04-34-00S20	0,1 ml SAMPLE (25 rxn)	10 mM
04-34-00120	1 ml (250 rxn)	10 mM
04-34-02020	20 ml (5000 rxn)	10 mM

For *in vitro* use only

Description:

5x HOT FIREPol® MultiPlex Mix is a premixed ready-to-use solution containing all reagents required for hot-start multiplex PCR (except template, primers and water).

Applications:

- Hot Start PCR
- Multiplex PCR

Mix Composition:

- **HOT FIREPol® DNA polymerase**
- **5x MultiPlex Buffer**
- **10 mM MgCl₂**
1x PCR solution – 2mM MgCl₂
- **dNTPs**
- **BSA**
- **Compound that increases sample density for direct loading**

Shipping and Storage conditions:

Routine storage: -20°C

Shipping and temporary storage for up to 1 month at room temperature or storage for up to 6 months at 2-8°C has no detrimental effects on the quality of 5x HOT FIREPol® MultiPlex Mix.

Recommendations:

Reaction setup at room temperature is highly recommended for HOT FIREPol® MultiPlex Mix.

Recommended PCR reaction mix:

Component	Volume	Final conc.
5x HOT FIREPol® MultiPlex Mix	4µl	1x
Forward primer (10 pmol/µl)	0.2-0.6µl	0.1-0.3 µM (each)
Reverse primer (10 pmol/µl)	0.2-0.6µl	0.1-0.3 µM (each)
Template DNA	variable ¹	variable ¹
H ₂ O	Up to 20 µl	

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

Recommended PCR cycles:

Operation	Temp.	Time	Cycles
Initial activation*	95°C	12 min	1
Denaturation	95°C	20-30 s	25-30
Annealing	58-62°C	30-60 s	
Elongation	72°C	30 s - 3 min	
Final elongation	72°C	5-10 min	1

* To activate the polymerase, include an incubation step at **95°C for 12 minutes** at the beginning of the PCR cycle.

Troubleshooting:

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

- **25 mM MgCl₂** (cat. no. 05-11-00025) can be used for optimization of the MgCl₂ concentration. The 1x PCR mix solution of 2 mM MgCl₂ gives satisfactory results in most applications. If necessary the MgCl₂ 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.

Permitted Use: This product is supplied for research use only (the **Permitted Use**). If the customer wishes to use the product for any purpose other than the Permitted Use, including (without limitation) resale or alteration, the customer should obtain the appropriate licence from Solis BioDyne. Some applications of this product may require a license/licenses from one or more third parties which are not provided by the purchase of this product. Users should obtain the licence if required. Covered by the patent EP2501716, made by the methods of US Patent No 9,321,999.

Warranty and Disclaimer: This product shall comply with its relevant specification and be fit for its stated purpose, but Solis BioDyne gives no other warranty and makes no representation as to description or quality. Any such warranty or representation is excluded, to the fullest extent permitted by law. In particular, but without limiting the foregoing, Solis BioDyne shall not be liable for the failure of the product to comply with its relevant specification where such failure arises as a result of: (i) customer negligence or because the customer failed to follow any of the applicable technical data or safety sheets, standard user materials, use guidelines or any other information provided by Solis BioDyne as to the storage, transportation, handling, use or maintenance of the products or other good practice regarding the same, or (ii) the customer altering the products in any way without the prior written consent from Solis BioDyne, or (iii) the products differing from the relevant specification as a result of changes made to ensure their compliance with applicable statutory or regulatory requirements.

Nothing shall limit or exclude Solis BioDyne's liability for death or personal injury caused by its negligence, fraud or fraudulent misrepresentation or any matter in respect of which it would be unlawful for Solis BioDyne to exclude or restrict liability. Without limiting the foregoing, Solis BioDyne shall under no circumstances whatever be liable to the customer, whether in contract, tort (including negligence), breach of statutory duty, or otherwise, for any loss of profit, or any indirect or consequential loss arising under or in connection with the products and Solis BioDyne's total liability to the customer in respect of all other losses arising under or in connection with the product, whether in contract, tort (including negligence), breach of statutory duty, or otherwise, shall in no circumstances exceed the price of the products supplied in respect of which the liability has arisen.