

FailSafe PCR Systems

Dependable, consistent PCR results with every template and primer set

The FailSafe™ PCR System is designed to provide successful PCR amplification, the first time and every time. Regardless of the template source, the FailSafe PCR System provides consistent, high-fidelity results—guaranteed!

Successful, robust amplification of a challenging, GC-rich target

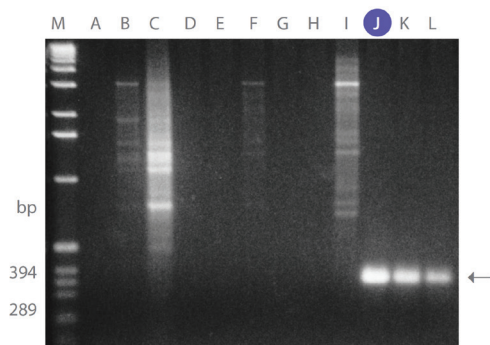


Figure 1. Amplification of an 80%-85% GC-rich region of the human Fragile X gene. PCR was performed using the FailSafe PCR System and purified human genomic DNA. Lanes A-L show the amplification products resulting from PCR using the 12 FailSafe PCR 2X PreMixes. In this reaction, optimal amplification was obtained with FailSafe PCR 2X PreMix J. The size of the expected amplicon is indicated by an arrow. Lane M, molecular weight marker.

Multiplex PCR from nanogram amounts of human genomic DNA

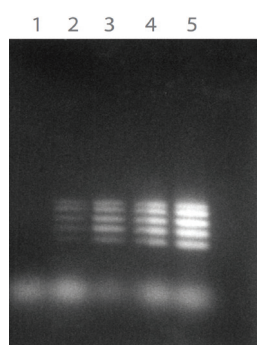


Figure 2. Multiplex PCR of five exons of the human CFTR gene from genomic DNA. Lanes 1-5 show amplification of increasing amounts of human genomic DNA using the FailSafe PCR System. The system amplified all five exons of the CFTR gene from as little as 1 ng of human genomic DNA. Lane M, molecular weight marker.

- **Convenient format:** simplifies PCR optimisation for a wide variety of reaction conditions and templates
- **Robust system:** enables successful amplification of difficult and GC-rich templates, as well as targets up to 20 kb
- **Flexible conditions:** provides options for multiplex PCR
- **Accurate amplification:** error rate three-fold lower than Taq DNA Polymerase
- **Sensitive reaction:** PCR Enhancer (with betaine) present in some 2X PreMixes ensures amplification from low amounts of template

epicentre®

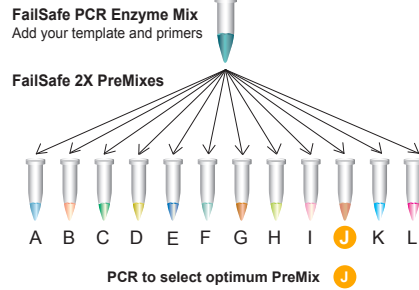
Exclusively available thru Lucigen.

How the FailSafe PCR system works

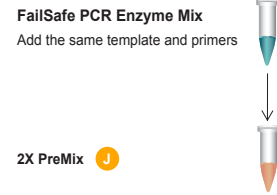
1. For the first PCR experiment with a new template or primer set, purchase the FailSafe PCR PreMix Selection Kit (Cat. No. FS99060). It contains the FailSafe PCR Enzyme Blend and 12 different 2X PreMixes (A-L).
2. Perform PCR using your template, primers, FailSafe PCR Enzyme Blend, and each of the 12 FailSafe PreMixes in separate reactions.
3. Analyze the PCR products by agarose gel electrophoresis. Visually determine which FailSafe PreMix produced the best amplification (e.g., a single, sharp band of the expected size, or multiple bands of the expected sizes for multiplex PCR).
4. Use the optimal 2X PreMix, identified previously, for all future PCR amplifications with the same template and primer set.
5. To reduce subsequent costs, purchase a FailSafe PCR System with PreMix Choice (Cat. No. FS99100, FS99250, or FS9901K), instead of buying the enzyme and 2X PCR PreMixes separately. These kits provide sufficient enzyme and the appropriate amount of your favorite 2X PCR PreMix(es).

Figure 3. The FailSafe PCR PreMix Selection Kit and FailSafe PCR System workflow.

1 Identify the optimal FailSafe 2X PreMix



2 Purchase and continue to use the optimal Failsafe 2X PreMix and PCR Enzyme Mix combination



Never fail at PCR again

FailSafe PCR System specification

| | |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Components | The FailSafe PCR PreMix Selection Kit and the FailSafe PCR System with PreMix Choice include FailSafe PCR Enzyme Mix and the designated amount of PCR 2X PreMixes. Each FailSafe PCR 2X PreMix contains dNTPs, buffer, and various amounts of MgCl ₂ and FailSafe PCR Enhancer with Betaine. |
| Note | FailSafe PCR Enzyme Mix and 2X PCR PreMixes are also available separately. |

Ordering information

| Cat no. | Size | Description |
|---------------------|-------------------|------------------------------------------------------------------------------------------|
| FS99060 | 60 units | FailSafe PCR PreMix Selection Kit (includes all 12 Premixes A–L below) |
| FS99100 | 100 units | FailSafe PCR System with PreMix Choice (choose any one PreMix from A–L below) |
| FS99250 | 250 units | FailSafe PCR System with PreMix Choice (choose any two PreMixes from A–L below) |
| FS9901K | 1000 units | FailSafe PCR System with PreMix Choice (choose any eight PreMixes from A–L below) |
| FSP995A-INCL | 2.5 mL | FailSafe PCR 2X PreMix A |
| FSP995B-INCL | 2.5 mL | FailSafe PCR 2X PreMix B |
| FSP995C-INCL | 2.5 mL | FailSafe PCR 2X PreMix C |
| FSP995D-INCL | 2.5 mL | FailSafe PCR 2X PreMix D |
| FSP995E-INCL | 2.5 mL | FailSafe PCR 2X PreMix E |
| FSP995F-INCL | 2.5 mL | FailSafe PCR 2X PreMix F |
| FSP995G-INCL | 2.5 mL | FailSafe PCR 2X PreMix G |
| FSP995H-INCL | 2.5 mL | FailSafe PCR 2X PreMix H |
| FSP995I-INCL | 2.5 mL | FailSafe PCR 2X PreMix I |
| FSP995J-INCL | 2.5 mL | FailSafe PCR 2X PreMix J |
| FSP995K-INCL | 2.5 mL | FailSafe PCR 2X PreMix K |
| FSP995L-INCL | 2.5 mL | FailSafe PCR 2X PreMix L |

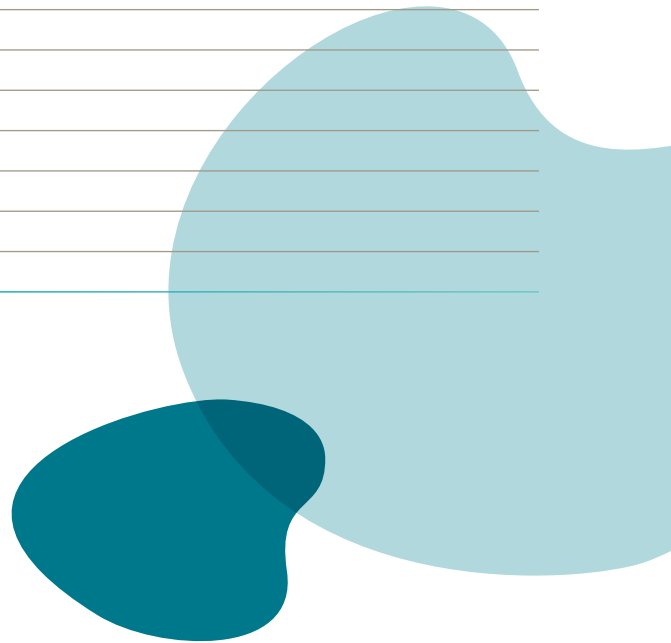
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