A&A BIOTECHNOLOGY
innovating life science

Manual

FiXiT™ MDA DNA Amplification Kit

Multiple displacement amplification (MDA) isothermal DNA amplification kit.

catalog #	size
1202-100	100 reactions

For research use only.

Guarantee
A&A Biotechnology provides a guarantee on this product.
The company does not guarantee the correct performance of this kit in the event of:

- not adhering to the supplied protocol
- use of not recommended equipment or materials
- use of other reagents than recommended or which are not a component of the product
- use of expired or improperly stored product or its components

Table of Contents

Specification

amplification range	• plasmids • genomic DNA • difficult DNA templates e.g. those containing more than 70% of GC pairs
proofreading	3'-5' exonuclease activity
applications	• NGS library construction • PCR, real-time PCR

Advantages

- High yields of amplified DNA even from minute amounts of template.
- Isothermal polymerase, requiring no thermal cycling.
- High processivity and strand displacement activity.
- Efficient amplification of difficult templates.

Description

The **Fixit™ MDA DNA Amplification Kit** is ready-to-use for strand displacement amplification of genomic DNA. The kit contains the Fixit™ DNA polymerase (Phi29-like DNA polymerase), whose properties enable effective and accurate isothermal amplification of challenging DNA templates. Amplification products can then be used in molecular techniques such as PCR, real-time PCR or NGS. This allows DNA amplification without the need for thermocycling and reactions can be performed at a constant temperature.

Contents

		1202-100	
component	**quantity**	**cat #**	**storage**
Fixit™ polymerase	110 µl	K-FXT-110B	-20 °C
10x Fixit™ buffer	220 µl	K-FXTB-220B	-20 °C
10mM dNTPs Mix	220 µl	K-10DNT-220B	-20 °C
PTO Random Hexamer Primers	220 µl	K-PTO-220B	-20 °C
80 mM DTT	20 µl	K-80DTT-20B	-20 °C
ultrapure water	1.5 ml	K-WUP-15A	-20 °C

Additional equipment and reagents

- 0.2 ml PCR tubes
- thermoblock
- vorteks
- microcentrifuge

Important notes

- Before use all solutions should be thawed thoroughly on ice, gently mixed by inverting the tube and briefly centrifuged.
- Up to 7x repeated freeze-thaw cycles do not influence the activity of this product.

Material preparation

1. Add **2 µl** of **PTO Random Hexamer Primers** (PTO - Phosphorothioate) to up to 1**2 µl** of DNA template. Mix by pipetting, then briefly vortex.
2. Incubate in a thermocycler or thermoblock for **3 min** at **95 °C**. Cool on ice to **4 °C**.
3. Follow point 1. of the protocol.

Example MDA reaction protocol

1. Place the reaction tubes in ice or a cold block and add:

   Attention. Add FiXit™ polymerase as the last component of the reaction.

component	20 µl reaction volume
denatured DNA	up to 14 µl
10x Fixit™ buffer	2 µl
10mM dNTPs Mix	2 µl
80 mM DTT	1 µl
Fixit™ polymerase	1 µl
ultrapure water	up to 20 µl

2. Mix by pipetting, briefly vortex.

3. Incubate at **30 °C** for 4 - 16 h.

   Note. The incubation time of the reaction is dependent on the initial amount of template DNA. It is recommended to extend the incubation time in case of a small starting amount of DNA template.

4. To stop the reaction, inactivate the FiXit™ polymerase for **10 min** at **65 °C**.

Additional information

After the amplification reaction, we recommend cleaning the DNA with Clean-Up kit (cat. #021-50, 021-250), Clean-Up AX (cat. # 026-50) or Clean-Up Concentrator (cat. # 021-50C, 021-250C).

Safety information

WARNING

DTT (dithiothreitol)

H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

A&A BIOTECHNOLOGY
innovating life science

A&A Biotechnology, ul. Strzelca 40, 80-299 Gdańsk, Poland
phone +48 883 323 761, +48 600 776 268
info@aabiot.com, www.aabiot.com

version 2023-1