DirectGO™ PreMix
2X PCR Master Mix

Operation Manual

Cat.: C108200
Size: 1.25 mL (for 100 reactions)
Store at -20°C upon arrival
Research Use Only

I. Description:

2X DirectGO™ PreMix is a premixed ready-to-use solution containing reaction buffer, dNTPs, loading dye, glycerol, PCR enhancers, and Hot Start Taq DNA polymerase as a 2-fold concentration. Compared with conventional Taq polymerase, DirectGO™ Taq prevents non-specific amplification due to mispriming or formation of primer dimers before thermal cycling, and it also possesses a 2X faster elongation rate than conventional Taq. The polymerase activity is restored during the initial denaturation step when amplification reactions are heated at 94-95°C for ten minutes. In addition, 2X DirectGO™ PreMix is suitable for PCR amplification directly from whole blood, and samples from cell lines or tissues. You may skip any prior DNA purification steps, only applying a tiny amount of raw material directly into the PCR reaction, running in a PCR machine, and directly loading into an agarose gel for electrophoresis. 2X DirectGO™ PreMix is a powerful tool for DNA analysis because of its specificity and quickness.

II. Applications:

1. Trace sample analysis
2. PCR - Karyotyping
3. Forensic examination
4. High - specificity PCR
5. High - throughput PCR

III. Storage Condition

-20℃	4℃	25℃	37℃
2 years	14 days	10 days	3 days

IV. Recommended PCR Condition:

Instruction on using whole blood as templates:

Heparin, EDTA, or citrate-treated whole blood samples are all suitable for DirectGO™ PreMix. DNA amplification can be achieved in the presence of 1~10% blood.

Instruction on using plant tissues as templates:

By using a puncher or other tools, plant tissue with 1mm in diameter can be added directly into a 25 µL PCR reaction without pre-treatment. The recommended size of plant tissue is < 1 mm² in diameter.

Note:

For whole blood or tissues direct PCR, we recommend the reaction mix should be kept on ice before PCR amplification starts because a crude sample can result in false negative results from PCR.

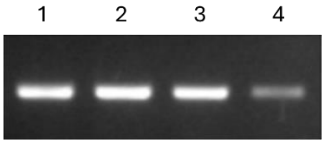
Component	Volume per reaction (µL)
Raw material	X
10 µM forward Primer	0.5
10 µM reverse Primer	0.5
2X DirectGO™ PreMix	12.5
Nuclease-Free Water	to 25
Total volume	25 µL

V. Thermocycling Conditions for a Routine PCR:

The recommended parameters may be optimized for each new primer-template pair for optimal specificity and amplification.

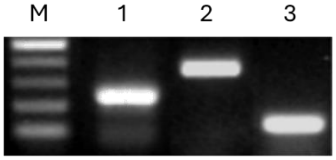
Cycles	Step	Temp.	Time
1	Initial denaturation	95℃	10 mins
25-35	Denaturation	95℃	30 sec
	Annealing	Primer Tm +3-5℃	30 sec
	Extension	72℃	15-30 sec/kb
1	Final Extension	72℃	5-10 mins
	Hold	14℃	--

VI. Experimental Data



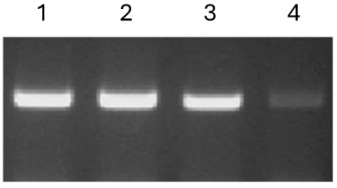
Lane1: Human gDNA
Lane2: 1% Whole blood
Lane3: 5% Whole blood
Lane4: 10% Whole blood

Figure 1. Comparison of PCR amplification in different percentages of whole blood. (whole blood contains heparin)



LaneM: Marker
Lane1: Arabidopsis thaliana
Lane2: Rice
Lane3: Corn

Figure 2. Comparison of PCR amplification in different plant leaves. (1 mm² diameter)



Lane1: Oral Mucosa (from swabs)
Lane2: Oral Mucosa (from toothpick)
Lane3: Nail
Lane4: Hair

Figure 3. Comparison of PCR amplification in human tissues.

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