DirectGO™ PreMix
2X PCR Master Mix

Catalog number: C108200
Size: 1.25 mL (for 100 PCR reactions)
Store at -20°C

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 2-fold concentration. Comparing with conventional Taq polymerase, DirectGO™ Taq prevents non-specific amplification due to mispriming and/or formation of primer dimers before thermal cycling, and it also possess 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 quickly.

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℃
1.5 years	14 days	10 days	3 days

IV. Recommended PCR Condition:

Instruction of using whole blood as templates:
Heparin, EDTA or citrate treated whole blood sample is all suitable for DirectGO™ PreMix. DNA amplification can be achieved in the present of 1 ~ 10% blood.

Instruction of using plant tissues as templates:
By using puncher or other tools, plant tissue with 1mm in diameter is able to add 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 recommended the reaction mix should keep on ice before PCR amplification started because crude sample can result in false negative results from PCR.

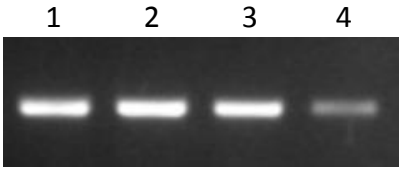
Component	Amount per reaction
Raw material	X
10 µM forward Primer	0.5 µl
10 µM reverse Primer	0.5 µl
2X DirectGO™ PreMix	12.5 µl
Nuclease-free water	to 25 µl
Total volume	25 µl

V. Thermocycling Conditions for a Routine PCR:

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

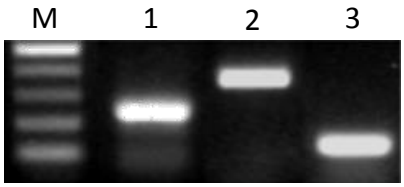
Cycles	Step	Temperature	Time
1	Initial denaturation	95°C	10 mins
25-35	Denaturation	95°C	30 s
	Annealing	Primer Tm + 3-5°C	30 s
	Extension	72°C	15-30 s/kb
1	Final Extension	72°C	5-10 mins
	Hold	14°C	--

VI. Experimental Data



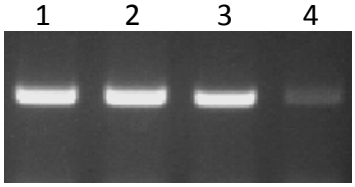
Lane1: Human gDNA
Lane2: 1% Whole blood
Lane3: 5% Whole blood
Lane4: 10% Whole blood

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



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

Figure 2. Comparison of PCR amplification in different plant leaf. (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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