DATA SHEET

Jena Bioscience

Direct WGA Kit

Cat. No.	Amount
PCR-382S	20 reactions x 20 µl
PCR-382L	100 reactions x 20 µl

For *in vitro* use only!

Shipping: shipped on blue ice

Storage Conditions: store at -20 °C

Shelf Life: 12 months

Applications:

- Genotype analysis
- PCR and real-time PCR
- Construction of genomic library

Description:
Direct WGA Kit is a complete system for whole genome amplification from various tissues or samples directly without DNA purification processes. Very little amount of samples, several miligram or microliter volume, are required for the direct WGA. About 10 µg DNA products could be obtained in a standard reaction. The enzyme mix and buffer system are designed to tolerate against most amplification inhibitors found in crude samples. *Phi29* DNA polymerase, the major polymerization enzyme of this kit, isothermally amplifies the genomic DNAs included in the samples with multiple displacement mechanism. *Phi29* DNA polymerase could produce DNA strand up to 70 kb long with high fidelity. All required components including enzymes, buffers, dNTPs, random primers, and sample pretreatment reagents are supplied in this kit. The amplified DNA products could be applied for successive PCR, genotyping, and library construction.

- Fast and uniform amplification across entire genome
- Multiple Displacement Amplification by *Phi29* DNA polymerase
- Direct WGA from Whole blood, animal tissues, plant leaves and seeds, clinical & forensic sample [Saliva, Buccal swab, Hair root, Blood stain (toilet paper or paper)]

Content:

Component	PCR-382S	PCR-382L
1 M DTT	100 µl	500 µl
PBS Buffer	20 µl	100 µl
DB	1.0 ml	5 x 1.0 ml
NB	40 µl	200 µl
Primer Mix	20 µl	100 µl
Enzyme Mix	20 µl	100 µl
Reaction Buffer	240 µl	1.2 ml
dNTP Mix (each 10 mM)	40 µl	200 µl

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Preparation Procedure

1. Preparation of DM Buffer

- for one reaction mix 50 µl DB with 5 µl 1 M DTT (for *blood samples* mix 5 µl DB with 0.5 µl 1 M DTT)
- **Please note**: DM Buffer should be freshly prepared for use

2. Sample Preparation

for Blood Samples

- Add 1 µl of PBS Buffer to 0.5-1 µl of whole blood sample.
- Add 1.5 µl of DM Buffer and mix by pipetting.
- Incubate on ice for 10 min.
- Add 1.5 µl of NB. Briefly vortex and spin down.

for Animal tissue

- Transfer 50 µl of DM Buffer into a 1.5 ml microtube.
- Add a tissue slice size of about 5 mm into the DM buffer. Briefly mix by vortexing and spin down.
- Incubate at room temperature for 10 min.
- Transfer 2 µl of the supernatant into a new 1.5 ml microtube.
- Add 2 µl of NB. Mix by pipetting and spin down.

for Plant Leaves or Seeds

- Transfer 50 µl of DM Buffer into a 1.5 ml microtube.
- Add a plant leaf cut size of about 5 mm or several small (<1 mm size) pieces of cracked plant seeds into the DM buffer. Briefly mix by vortexing and spin down.
- Incubate at room temperature for 10 min.
- Transfer 2 µl of the supernatant into a new 1.5 ml microtube.
- Add 2 µl of NB. Mix by pipetting and spin down.

3. Add followings and mix well to make final 20 µl reaction mixture

component	20 µl assay
Reaction Buffer	12 µl
dNTP Mix (10 µM)	2 µl
Primer Mix	1 µl
Enzyme Mix	1 µl

4. Incubation

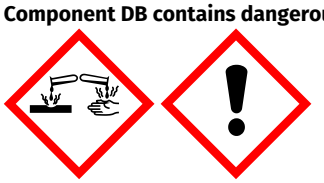
- Incubate at 30 °C for 1.5 hours and inactivate the enzyme at 65 °C for 3 min.
- **Please note**: Perform the reaction at a thermal cycler or incubator. Water-bath is not recommendable. For PCR, use 1-2 µl of 10-fold diluted product with distilled water. If the PCR is not successful, it is recommended to use 1-2 µl of undiluted product as PCR template.

5. Storage

- Store amplified DNA at -20 °C.

Direct WGA Kit

Component DB contains dangerous substance



Signal word: Danger

Hazard statements
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor/.../ if you feel unwell.
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

For further information see Material Safety Data Sheet.