Labeled DNA probes from limited amount of genomic DNA (gDNA) are efficiently prepared via *Phi29*-based whole genome amplification (WGA)

Jena Bioscience

Limited amount of gDNA
(10 – 50 ng of gDNA)

Sufficient amount of gDNA
(>/=1 µg gDNA**)**

Phi29 WGA Kit

1 ***Phi29*** **DNA polymerase-based WGA**
1.5 h

amplified gDNA
(2 – 12 kbp)

see page 2

gDNA Fragmentation Kit (AluI/RsaI)

2 **gDNA Fragmentation**
0.15 - 2h

gDNA fragments
(200 – 1000 bp)

see page 3

PCR Purification Kit

3 **Purification**
0.15 h

Purified gDNA fragments
(200 – 1000 bp)

Klenow 3‘-5‘ exo-

dNTPs

Fluorescent dUTP or dCTP

4 **Klenow 3‘-5‘ exo-based Labeling**
2 h

Labeled gDNA probes
(200 – 1000 bp)

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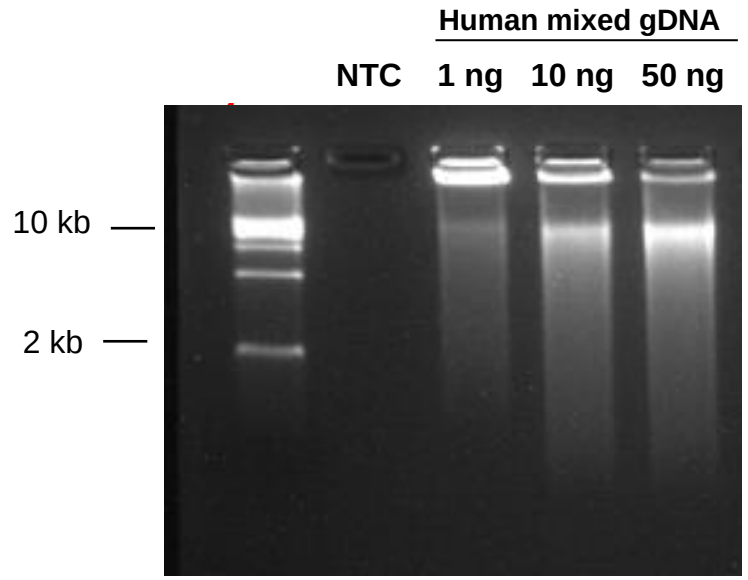
More information…

Phi29 WGA Kit produces an average product length > 10 kb
(major band at 10 – 12 kp, range between 2 kb and approximately 100 kb)



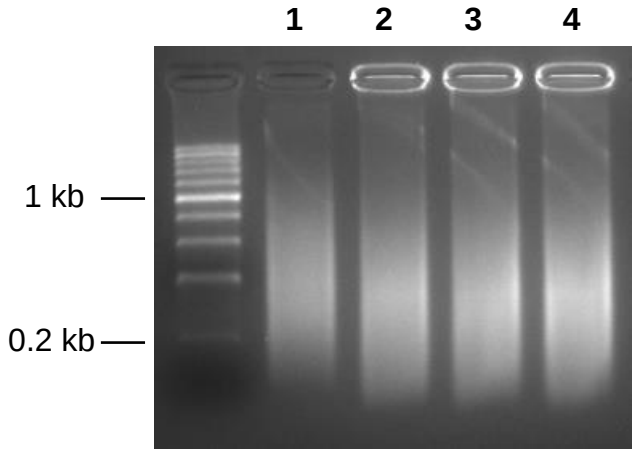
- **WGA reaction: 1.5 h, 30°C**
- **2 µl of 20 µl reaction analyzed via agarose gel electrophoresis (1% agarose gel ,1x TAE, EvaGreen staining)**
- **NTC: Non Template Control**

More information…

gDNA is fragmented via AluI / RsaI digestion

Recommended starting point for individual AluI / RsaI fragmentation assay set-up:

50 U each AluI / RsaI in 10x Universal Buffer plus 0.5 µg BSA & 1 mM DTT, 2h at 37°C



1 µg of purified human mixed gDNA (lane 1) or 17 µl of WGA reaction mix (derived from Phi29 WGA Kit) (lane 2-4) have been incubated under different fragmentation conditions and analyzed via agarose gel electrophoresis (10 µl of 50 µl reaction mix, 2.4% agarose gel ,1x TAE, EvaGreen staining)

1: 50 U each AluI / RsaI, 2h at 37°C
2: 50 U each AluI / RsaI, 2h at 37°C
3: 50 U each AluI / RsaI, 0.5 µg BSA, 2h at 37°C
4: 50 U each AluI / RsaI, 0.5 µg BSA, 1 mM DTT, 2h at 37°C

More information…