FastGene®

# Restriction Enzyme Bgl II

III 37 NO

| Cat.# | Size | Conc. |
|---|---|---|
| FG-BglII | 2,000 units | 10 units/µl |

**Store at -20℃**

**Supplied with:**
10X FastGene® Buffer III (FG-REB3)
10X FastGene® FastCut Buffer (FG-REBHF)
6X DNA Loading Buffer
Sterile water

**Recognition site**


***For Research Use Only. Not for use in diagnostic procedures.***

ISO9001

**Source**: *Bacillus globigii*

**Reaction conditions**
1X FastGene® Buffer III, 37℃
1X FastGene® FastCut Buffer, 37℃

**FastGene® FastCut Buffer**
FastGene® restriction enzyme can cut substrate DNA in 5-15 min with FastGene® FastCut Buffer.

**1X FastGene® Buffer III**
50 mM Tris-HCl (pH 7.9 at 25℃)
100 mM NaCl
10 mM $MgCl_2$
100 µg/ml BSA

**Unit definition**
One unit is defined as the amount of enzyme required for complete digestion of 1 µg bacteriophage λ at 37℃ for 1 hr in 50 µl reaction mixtures.

**Quality control**
- Unit definition assay
- Overdigestion assay
- Endonuclease assay
- Extreme pure assay

**Dilution buffer**
FastGene® Diluent A

**Heat Inactivation**
No.

**Methylation sensitivity**
*dam* methylation: Not sensitive
*dcm* methylation: Not sensitive
CpG methylation: Not sensitive

**Prolonged incubation**
A minimum amount of enzyme required to digest 1 µg substrate DNA for 16 hr; 0.25 U.

**Relative activity in FastGene® Buffers**

| | |
|---|---|
| FastGene® Buffer I: | 10% |
| FastGene® Buffer II: | 75% |
| FastGene® Buffer III: | 100% |
| FastGene® Buffer IV: | 10% |
| FastGene® FastCut Buffer: | 100% |

**Note**
It is not sensitive to *dam*, *dcm* or mammalian CpG methylation. It displays two-fold higher activity at pH 9.5 than pH 7.5. It is highly sensitive to impure DNA and buffer condition. It can cleave DNA with at least 2 bases on each side of cleavage site after 20-hr incubation, but it cleaves only 25% of DNA with 3 bases on each side after 2-hr digestion.

**Standard reaction condition**
- Normal protocol

| Component | Final Conc. | Volume |
|---|---|---|
| Substrate DNA | 1 µg | X µl |
| 10X FastGene® Buffer III | 1 X | 5 µl |
| Bgl II | 10 unit | 1 µl |
| Sterile water | | up to 50 µl |

→ Incubate at 37℃ for 1 hr

- Fast protocol

| Component | Final Conc. | Volume |
|---|---|---|
| Substrate DNA | 1 µg | X µl |
| 10X FastGene® FastCut Buffer | 1 X | 5 µl |
| Bgl II | 10 unit | 1 µl |
| Sterile water | | up to 50 µl |

→ Incubate at 37℃ for 15 min

※We recommend 5-10 units of enzyme per µg DNA and 10-20 units for genomic DNA in a 1 h digest.

NIPPON Genetics EUROPE GmbH
www.nippongenetics.eu
www.n-genetics.com

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|---|---|---|
| FG_BglII | 2,000 units | 10 units/µl |

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10X FastGene® FastCut Buffer (FG-REBHF)
6X DNA Loading Buffer
Sterile water

Recognition site

5' ··· A G A T C T ··· 3'
3' ··· T C T A G A ··· 5'

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1X FastGene® FastCut Buffer, 37℃

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Quality control
- Unit definition assay
- Overdigestion assay
- Endonuclease assay
- Extreme pure assay

Dilution buffer
FastGene® Diluent A

Heat Inactivation
No.

Methylation sensitivity
*dam* methylation: Not sensitive
*dcm* methylation: Not sensitive
CpG methylation: Not sensitive

Prolonged incubation
A minimum amount of enzyme required to digest 1 µg substrate DNA for 16 hr; 0.25 U.

Relative activity in FastGene® Buffers

| | |
|---|---|
| FastGene® Buffer I: | 10% |
| FastGene® Buffer II: | 75% |
| FastGene® Buffer III: | 100% |
| FastGene® Buffer IV: | 10% |
| FastGene® FastCut Buffer: | 100% |

Note
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- Normal protocol

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|---|---|---|
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| Bgl II | 10 unit | 1 µl |
| Sterile water | | up to 50 µl |

→ Incubate at 37℃ for 1 hr

- Fast protocol

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|---|---|---|
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| 10X FastGene® FastCut Buffer | 1 X | 5 µl |
| Bgl II | 10 unit | 1 µl |
| Sterile water | | up to 50 µl |

→ Incubate at 37℃ for 15 min

※We recommend 5-10 units of enzyme per µg DNA and 10-20 units for genomic DNA in a 1 h digest.