



PRODUCT INFORMATION

Ajl (BmgBI)

#ER1941 200 U

Lot: _____ Expiry Date: ____

5'...C A C↓G T C...3'
3'...G T G↑C A G...5'

Concentration: 5 U/μL
Source: *Acinetobacter johnsonii* RFL47
Supplied with: 1 mL of 10X Buffer Ajil
1 mL of 10X Buffer Tango

Store at -20 °C



BSA included
www.thermoscientific.com/onebio

RECOMMENDATIONS

1X Buffer Ajil (for 100% Ajil digestion)
10 mM Bis-Tris Propane-HCl (pH 6.5 at 37 °C),
10 mM MgCl₂, 100 mM KCl and 0.1 mg/mL BSA.

Incubation Temperature
37 °C.

Unit Definition
One unit is defined as the amount of Ajil required to digest
1 μg of lambda DNA-XhoI fragments in 1 hour at 37 °C in
50 μL of recommended reaction buffer.

Dilution
Dilute with Dilution Buffer (#B19): 10 mM Tris-HCl
(pH 7.4 at 25 °C), 100 mM KCl, 1 mM EDTA, 1 mM DTT,
0.2 mg/mL BSA and 50% glycerol.

Double Digests
Thermo Scientific Tango Buffer is provided to simplify buffer
selection for double digests. 98% of Thermo Scientific restriction
enzymes are active in a 1X or 2X concentration
of Tango™ Buffer. Please refer to
www.thermoscientific.com/doubledigest to choose the best
buffer for your experiments.

1X Tango Buffer: 33 mM Tris-acetate (pH 7.9 at 37 °C),
10 mM magnesium acetate, 66 mM potassium acetate,
0.1 mg/mL BSA.

Storage Buffer
Ajl is supplied in: 10 mM Tris-HCl (pH 7.4 at 25 °C),
100 mM KCl, 1 mM DTT, 1 mM EDTA, 0.2 mg/mL BSA
and 50% glycerol.

Recommended Protocol for Digestion

- Add:
nuclease-free water 16 µL
10X Buffer Ajil 2 µL
DNA (0.5-1µg/mL) 1 µL
Ajil 0.5-2 µL*
 - Mix gently and spin down for a few seconds.
 - Incubate at 37 °C for 1-16 hours*.
- The digestion reaction may be scaled either up or down.

Recommended Protocol for Digestion of PCR Products Directly after Amplification

- Add:
PCR reaction mixture 10 µL (~0.1-0.5 µg of DNA)
nuclease-free water 18 µL
10X Buffer Ajil 2 µL
Ajil 1-2 µL*
- Mix gently and spin down for a few seconds.
- Incubate at 37 °C for 1-16 hours*.

* See Overdigestion Assay.

Thermal Inactivation

Ajil is inactivated by incubation at 65 °C for 20 min.

ENZYME PROPERTIES

Enzyme Activity in Thermo Scientific REase Buffers, %

Ajil	B	G	O	R	Tango™	2X Tango™
100	NR	NR	20-50**	NR	NR	20-50**

**Star activity appears at a greater than 5-fold overdigestion (5 U x 1h).
NR – buffer is not recommended, because of high star activity.

Methylation Effects on Digestion

- Dam: never overlaps – no effect.
- Dcm: never overlaps – no effect.
- CpG: completely overlaps – cleavage blocked.
- EcoKI: may overlap – effect not determined.
- EcoBI: may overlap – effect not determined.

Stability during Prolonged Incubation

A minimum of 0.5 units of the enzyme is required for complete digestion of 1 µg of lambda DNA in 16 hours at 37 °C.

Digestion of Agarose-embedded DNA

A minimum of 5 units of the enzyme is required for complete digestion of 1 µg of agarose-embedded lambda DNA in 16 hours.

Number of Recognition Sites in DNA

λ	ΦX174	pBR322	pUC57	pUC18/19	pTZ19R/U	M13mp18/19
17	0	0	0	0	0	0

For **CERTIFICATE OF ANALYSIS** see back page

CERTIFICATE OF ANALYSIS

Overdigestion Assay

No detectable change in the specific fragmentation pattern is observed after a 80-fold overdigestion with Ajil (5 U/μg lambda DNA x 16 hours).

Ligation and Recleavage (L/R) Assay

The ligation and recleavage assay was replaced with LO test after validating experiments showed LO test ability to trace nuclease and phosphatase activities with sensitivity that is higher than L/R by a factor of 100.

Labeled Oligonucleotide (LO) Assay

No detectable degradation of single-stranded or double-stranded labeled oligonucleotides occurred during incubation with 10 units of Ajil for 4 hours.

Blue/White (B/W) Cloning Assay

The B/W assay was replaced with LO test after validating experiments showed LO test ability to detect nuclease and phosphatase activities with sensitivity that equals to that of B/W test.

Quality authorized by:



Jurgita Zilinskiene

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Please refer to www.thermoscientific.com/onebio for Material Safety Data Sheet of the product.

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