

Ampligase® Thermostable DNA Ligase

Ampligase® Thermostable DNA Ligase catalyzes NAD-dependent ligation of double-stranded DNA at high temperature. Derived from a thermophilic bacterium, the enzyme is stable and active at much higher temperature than conventional DNA ligases.

Features and Benefits

- Half-life of 48 hours at 65°C and greater than 1 hour at 95°C.
- Active for at least 500 thermal cycles (94°C/80°C) or 16 hours of cycling.¹
- Enables extremely high hybridization stringency and ligation specificity.
- No activity on blunt-ended DNA, RNA, or RNA:DNA hybrids.
- One unit of Ampligase Thermostable DNA Ligase is equivalent to at least 15 "cohesive-end units" or "nick-ligation units" defined elsewhere.
- Assayed to ensure absence of blunt-end ligation activity and to be free of detectable exo- and endonucleases and RNases.

Applications

- Ligation Amplification (Ligase Chain Reaction, LCR) for detection of any defined DNA sequence by amplification of ligation products complementary to the sequence.²
- Repeat Expansion Detection (RED)³ method of genetic screening that detects multiple nucleotide repeats.
- Simultaneous mutagenesis of multiple sites.⁴
- High-fidelity gene synthesis.⁵
- Ligation under high stringency conditions.

References

1. Schalling, M. *et al.* (1993) *Nature Genetics* 4, 135.
2. Landegren, U. *et al.* (1988) *Science* 242, 229.
3. Sirugo, G. and Kidd, K.K. (1995) *EPICENTRE Forum* 2 (3), 1.
4. Moore, D.S. and Michael, S.F. (1995) *EPICENTRE Forum* 2 (4), 4.
5. Sutton, D.W. (1995) *EPICENTRE Forum* 2 (2), 1.

Visit our website for a complete list of references.

www.epicentre.com/ampligase.asp

Ampligase® DNA Ligase Kit

| | | |
|---|--------|---------|
| A8101 | 5 U/μl | 1,000 U |
| A30201 | 5 U/μl | 5,000 U |
| Contains 1,000 or 5,000 units of Ampligase® DNA Ligase, Ampligase® 10X Reaction Buffer, and Ligation Control DNA. | | |

Ampligase® Enzyme & Buffer

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|--|----------|---------|
| A0102K | 100 U/μl | 2,500 U |
| A32250 | 5 U/μl | 250 U |
| A32750 | 5 U/μl | 750 U |
| A3202K | 5 U/μl | 2,500 U |
| 25 μl of Ampligase® 10X Reaction Buffer is supplied with each 50 units of Ampligase® DNA Ligase. | | |

Ampligase® DNA Ligase

| | | |
|---|----------|----------|
| A0110K | 100 U/μl | 10,000 U |
| A0125K | 100 U/μl | 25,000 U |
| A3210K | 5 U/μl | 10,000 U |
| A3225K | 5 U/μl | 25,000 U |
| Supplied as enzyme only; Reaction Buffer is not included. | | |

Ampligase® 10X Reaction Buffer

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|--------|------|
| A1905B | 5 ml |
|--------|------|

Ampligase® 1X Storage Buffer

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|--------|------|
| A3201S | 1 ml |
| A3205S | 5 ml |

Ampligase® Thermostable DNA Ligase is also available in bulk. Please inquire.

Get Cleaner Plasmid Preparations with Plasmid-Safe™ ATP-Dependent DNase

Even after spin-column or CsCl purification, cloning vector preparations are frequently contaminated with fragments of bacterial chromosomal DNA that can be ligated into the cloning vector and result in false positives and high backgrounds. Plasmid-Safe™ ATP-Dependent DNase digests these linear double-stranded chromosomal DNA contaminants to deoxynucleotides yielding cleaner vector preparations for every cloning application. The enzyme has no activity on nicked or closed circular double-stranded DNA or supercoiled DNA. Therefore, Plasmid-Safe DNase is ideal as the final purification step for plasmid, cosmid and BAC vector preparations.

Features and Benefits

- Improves cloning results by reducing backgrounds and false positives.

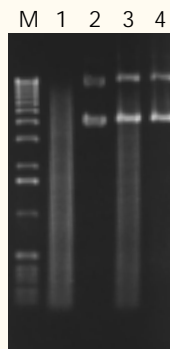


Figure 1. Use of Plasmid-Safe™ ATP-Dependent DNase to remove contaminating linear DNA from plasmids.

Lane 1, 3 μg of *Sma* I-digested bacterial chromosomal DNA; Lane 2, 500 ng of uncut plasmid DNA; Lane 3, mixture of 3 μg of digested bacterial chromosomal DNA and 500 ng of uncut plasmid before Plasmid-Safe DNase treatment; Lane 4, mixture of chromosomal DNA and plasmid DNA after Plasmid-Safe DNase treatment (incubated with Plasmid-Safe DNase for 30 minutes at 37°C); M, kb ladder.

- Minimizes the possibility of cloning contaminating bacterial chromosomal DNA fragments.
- Fast and easy protocols for minprep, midprep and maxiprep purifications are provided.

www.epicentre.com/plasmid_safe.asp

Plasmid-Safe™ ATP-Dependent DNase

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|--------|---------|----------|
| E3101K | 10 U/μl | 1,000 U |
| E3105K | 10 U/μl | 5,000 U |
| E3110K | 10 U/μl | 10,000 U |