# Rapid Digest Sla I

| Cat No. | Digestion site | Quantity | Isoschizomer |
|---|---|---|---|
| RD1111 | 5'...C↓T C G A G...3'<br>3'...G A G C T↑C...5' | 100µl(1RDU/µl) | PaeR7I, Sfr274I, StrI, TliI,xhoI |
| **source** | **Incubation time** | **Inactive** | **Active site on λ DNA** |
| *Streptomyces lavendulae* | 30 minutes at 37°C | 20 min at 65°C | 1 |

Supplied with: ***0.5ml 10X RD Universal Buffer,0.2 ml 10X RD Blue Buffer***

**Store at -20°C**, avoid frequent thawing and freezing.
For in vitro use only
Rapid Digest Restriction Enzyme is completely active in Universal Rapid Digest Buffer. All RD restriction enzymes are able to digest DNA in 15-30 minutes or less.
RD restriction enzyme also eliminates need for sequential digestion during double digest methods.

**Recommended assay**
1-Add below materials to 0.5ml tube:

| | Plasmid/ Lambda DNA | PCR product | Genomic DNA |
|---|---|---|---|
| **Water DNase free** | 15ul | 17ul | 30ul |
| **10XRapidDigest Buffer** | 2ul | 2ul | 5ul |
| **DNA** | 2ul (up to 1ug) | 10ul (_0.2ug) | 10ul (5ug) |
| **RapidDigest Enzyme** | 1ul | 1ul | 5ul |
| **Total Volume** | 20ul | 30ul | 50ul |

2- Mix gently and spin down.
3- Incubate at 37°C for 30 minutes[1].
4- Inactive the enzyme by heating for 20 min at 65°C[2].

1. *Time of incubation may need to optimization but it could be achieved between 5 to 30 minutes. For digestion of difficult to cleave-DNA, incubation time may extend to one hour.*
2. *There are some alternative ways to stop the reaction:*
   - *Addition of EDTA pH 8.0 <0.5M> final 20mM.*
   - *Spin column DNA purification.*
   - *Agarose gel extraction.*
   - *Phenol- Chloroform extraction.*
   - *Ethanol precipitation.*

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**Ligation and recutting:**
After 5-fold over digestion with, >95% of the DNA fragments can be ligated and recut with this enzyme.

**DNA Methylation:**
No Inhibition: dam, dcm
Inhibition (Impaired): CpG

**Unit Definition:**
One RapidDigest Unit (1 RDU) is the amount of enzyme required to completely digest 1µg of Lambda DNA in 15-30 minute in 1X RapidDigest buffer.

**Quality Control:**
All preparations are assayed for contaminating endonuclease, 3'-exonuclease, 5'-exonuclease/ 5'-phosphatase, as well as nonspecific single and double stranded DNase activities.

For double digestion simply add 1ul of each enzyme and scale up the reaction. For different temprature reaction start of the enzymes that requires lower temprature.

**λ DNA used as substrate for unit definition and quality control tests.**

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