



**Figure 1. Schematic of mutation screening using ligation amplification.**  
 The existence of a point mutation at the site of ligation interferes with oligonucleotide ligation, resulting in no ligation product. The lack of an amplification product indicates the presence of a point mutation at the ligation site. Oligos can also be designed so ligation occurs in the presence of the mutant template.

[www.epicentre.com/ampligase.asp](http://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**

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**

A1905B	5 ml
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**Ampligase® 1X Storage Buffer**

A3201S	1 ml
A3205S	5 ml

## Transcribe 2'-Modified RNAs, Including RNAs Resistant to RNase A, Using Mutant T7 and SP6 R&DNA™ Polymerases

Like wild-type T7 and SP6 RNA Polymerases, EPICENTRE's mutant T7 and SP6 R&DNA™ Polymerases\* synthesize transcripts from a DNA template cloned downstream from a phage T7 or SP6 promoter. However, in addition to the canonical rNTPs, both T7 and SP6 R&DNA Polymerases can efficiently incorporate deoxyribonucleotides (dNTPs) and 2'-modified ribonucleotides, such as 2'-fluorine-dNTPs, and 2'-NH<sub>2</sub>-dNTPs, to prepare transcripts with mixed nucleotide compositions. RNA transcripts containing both 2'-fluorine-dCTP and 2'-fluorine-dUTP are particularly useful because they are not degraded by A-type RNases. Using these modified RNAs significantly reduces stability problems typically encountered when working with RNA.

Use mutant T7 and SP6 R&DNA Polymerases to:

- Synthesize transcripts containing RNase A-resistant 2'-fluorine-dCMP and 2'-fluorine-dUMP.
- Synthesize transcripts of mixed dNMP/rNMP or 2'-modified-dNMP/rNMP composition.

### Quality Control

T7 or SP6 R&DNA Polymerases are function-tested for synthesis of full length RNA transcripts using rATP, rGTP, rUTP and dCTP. Both enzymes are free of detectable DNA exo- and endonuclease, RNase, and *E. coli* RNA polymerase activities.

### Reference

Padilla, R. and Sousa, R. (1999) *Nucl. Acids Res.* 27(6), 1561.

[www.epicentre.com/t7\\_rdna.asp](http://www.epicentre.com/t7_rdna.asp)

**T7 R&DNA™ Polymerase**

D7P9201K	1,000 U	50 U/μl
D7P9205K	5,000 U	50 U/μl

**SP6 R&DNA™ Polymerase**

D6P9301K	1,000 U	50 U/μl
D6P9305K	5,000 U	50 U/μl

Each Polymerase is supplied with 5X Reaction Buffer, DTT Solution and MnSO<sub>4</sub> Solution

**2'-Fluorine-dCTP**

R2F110C	1 μmole	50 mM
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**2'-Fluorine-dUTP**

R2F110U	1 μmole	50 mM
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\* T7 and SP6 R&DNA Polymerases are covered by U.S. patent no. 5,849,546 and patents pending. These products are accompanied by a limited non-exclusive license for the purchaser to use the purchased product(s) solely for life science research.