



## Swift4 Ligase Master Mix, 4X (T4LIGMM)

Catalog #MB6308-50, 150 µl, for 50 reactions  
or

Catalog #MB6308-150, 600 µl, for 200 reactions

### Introduction

ScienCell's Swift4 Ligase Master Mix (T4LIGMM) is a 4X premix that simplifies the reaction setup while also ensuring rapid ligation at room temperature. T4LIGMM is ideal for use with both sticky-end and blunt-end DNA and needs only 5 minutes for the ligation reaction. The 4X premix contains an optimized ratio of enzyme, buffer and transformation enhancer. As it maintains a liquid state during storage at -20 °C, no thawing of the master mix is required. Simply combine T4LIGMM and DNA, the resulting reaction mixture may then be used directly for bacterial transformation.

### Kit Components

*Catalog #MB6308-50*

Cat #	Item	Quantity	Storage
MB6308-50	Swift4 Ligase Master Mix, 4X	150 µl	-20°C

*Catalog #MB6308-200*

Cat #	Item	Quantity	Storage
MB6308-200	Swift4 Ligase Master Mix, 4X	600 µl	-20°C

### Quality Control

The performance of T4LIGMM is verified by transformation efficiency of recircularized vector.

### Product Use

T4LIGMM is for research use only. It is not approved for human or animal use, or for application in clinical or in vitro diagnostic procedures.

### Shipping and Storage

The product is shipped on dry ice. Upon receipt, store Swift4 Ligase Master Mix, 4X (Cat # T4LIGMM) at -20°C in a manual defrost freezer. Aliquot as needed.

## Procedure

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**Important:** Only use nuclease-free water.

1. Place Swift4 Ligase Master Mix, 4X on ice.
2. Prepare ligation reaction as shown in Table 1 or Table 2 (depending on type of ligation reaction required). For other reaction volume setups, scale up or down proportionally.

**Table 1. Ligation reaction preparation – insertion of DNA into plasmid vector DNA**

Component	Volume	Final concentration
Swift4 Ligase Master Mix, 4X	3 $\mu$ L	1X
Linearized vector DNA	variable	10-100 ng
Insert DNA	variable	3:1 molar excess over vector
Nuclease-free water (NOT provided)	to 12 $\mu$ L	-
<b>Total volume per reaction</b>	12 $\mu$ L	-

**Table 2. Ligation reaction preparation – recircularization of linear DNA**

Component	Volume	Final concentration
Swift4 Ligation Mix, 4X	3 $\mu$ L	1X
Linearized vector DNA	variable	10-50 ng
Nuclease-free water (NOT provided)	to 12 $\mu$ L	-
<b>Total volume per reaction</b>	12 $\mu$ L	-

3. Mix and incubate at room temperature at least 5 minutes.
4. Optional: the reaction mixture may be store at 0-4°C until used for transformation.
5. Use 5  $\mu$ l of the ligation mixture for transformation.