

## Transfectamine™ mRNA Transfection Reagent

 Catalog number: 60030, 60031  
 Unit size: 500 µl, 5 ml

Component	Storage	Amount (Cat No. 60030)	Amount (Cat No. 60031)
Transfectamine™ mRNA Transfection Reagent	Refrigerated (2-8 °C), Minimize light exposure	500 µL	5 mL

### OVERVIEW

Transfectamine™ mRNA Transfection Reagent is a powerful and versatile transfection reagent designed to introduce a higher amount of mRNA into eukaryotic cells, or more specifically, into animal cells. It delivers high transfection efficiency in a wide variety of adherent and suspension cell lines, including difficult-to-transfect cells. Nuclear uptake is not required, which results in faster protein expression than DNA transfection without the risk of genomic integration. The low toxicity of Transfectamine™ mRNA Transfection Reagent allows higher viability of transfected cells. Transfectamine™ mRNA Transfection Reagent does not require special medium and is easier to use compared to most of the commercial transfection reagents.

### AT A GLANCE

#### Protocol Summary

1. Prepare cells for transfection
2. Prepare the Transfectamine™ mRNA Transfection Reagent-RNA mixture
3. Add the Transfectamine™ mRNA Transfection Reagent-RNA mixture to the cell culture
4. Culture cells overnight
5. Analyze transfection efficiency with an appropriate method

### CELL PREPARATION

1. Culture cells to ~90% confluency at the time of transfection.
2. Replace with fresh growth medium before transfection. For example, replace with 2 mL of medium per well for 6-well plates and 6 mL of medium for 10 cm plates.

### PREPARATION OF WORKING SOLUTION

#### 1. Transfectamine™ mRNA Transfection Reagent-RNA mixture

1. Mix 2.5 µg of mRNA with 200 µL of serum-free medium.
2. Add 7.5 µL of Transfectamine™ mRNA Transfection Reagent to Step 1.
3. Mix well and incubate at RT for 20 minutes.

**Note** The ratio of Transfectamine™ mRNA Transfection Reagent to mRNA need to be optimized for different cell lines. In general, Transfectamine™ mRNA Transfection Reagent (µL) to mRNA (µg) Ratio = (3 to 5 µL) to 1 µg. **Table 1.** Sample protocol detail for 6-well plates as shown by table below.

Component	6-well plate (per well)
Fresh culture medium	2 mL
Purified mRNA	~2.5 µg
Serum-free medium	200 µL
Transfectamine™ mRNA Transfection Reagent	~7.5 µL

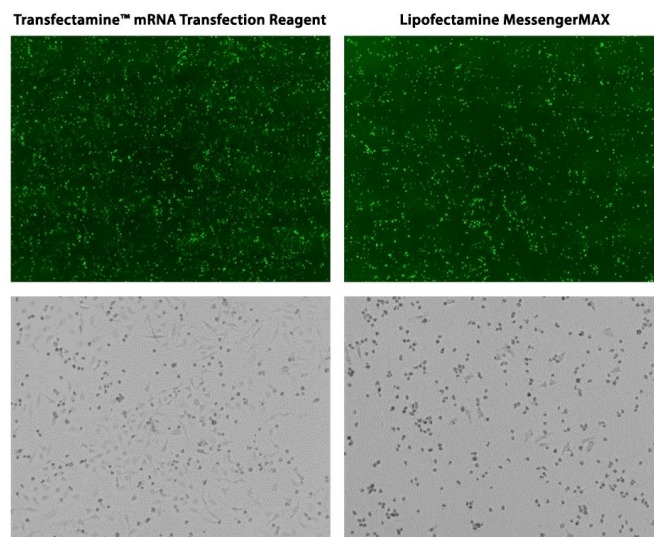
### SAMPLE EXPERIMENTAL PROTOCOL

#### Transfection Protocol

1. Add the Transfectamine™ mRNA Transfection Reagent -mRNA mixture to the culture plate and culture overnight.

**Note** Recombinant protein expression can be detected as early as 8 hours after the transfection. Maximal expression level may be observed ~24 hours after the transfection.

### EXAMPLE DATA ANALYSIS AND FIGURES



**Figure 1.** Transfection efficiency comparison (Upper panel) and cellular toxicity comparison (Bottom panel) in HeLa cells. HeLa cells were cultured in a 6-well plate to ~90% confluency. 2.5 µg of mRNA was transfected with Lipofectamine MessengerMAX and Transfectamine™ mRNA Transfection Reagent, respectively. Images were taken 18 hours after the transfection using a fluorescent microscope with the FITC channel (Upper panel). Although transfection efficiency was similar for Lipofectamine MessengerMAX and Transfectamine™ mRNA Transfection Reagent, most Lipofectamine MessengerMAX transfected samples were scrambled, whereas cells transfected with Transfectamine™ mRNA Transfection Reagent looked much healthier (bottom panel).

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