Cat # SL100568-PNN Store at 4 °C

GenMute™ siRNA Transfection Reagent for Primary Neurons

----- A General Protocol for Transfecting siRNA to Primary Neurons

- ☐ 100 µl
- ☐ 500 µl
- ☐ 1000 µl

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This product is for laboratory research ONLY and not for diagnostic use

Introduction:

GenMute™ Reagent is a novel biodegradable polymer based siRNA and DNA transfection reagent. With our proprietary pH Dependent Conformational Change (PDCC) technology, the biodegradable polymer was chemically modified by addition of pre-screened hydrophobic groups to side chain, making GenMute™ Reagent the most powerful siRNA delivery tool. GenMute™ siRNA Transfection Reagent for primary neurons is pre-optimized for transfecting siRNA to primary neurons with maximum silencing.

Important Guidelines for Transfection:

- For maximum gene silencing, we recommend using GenMute™ Transfection Buffer to dilute siRNA/DNA and GenMute™ Reagent.
- While the standard protocol for siRNA transfection to primary neurons is being given below, optimization is sometimes needed for different siRNAs.

Standard siRNA Transfection of Primary Neurons

Step I. Preparation of Working Solution of GenMute™ Transfection Buffer:

GenMute™ Transfection Buffer (5x) is provided as 5x concentrated stock solution. To make working solution, dilute one part of the stock solution with 4 parts of ddH_2O into a sterile bottle. The working solution is table at 4 °C~RT for 12 months.

Step II. Primary Neurons Preparation:

Primary neurons should be prepared to mix with 5 % astrocytes and glia cells per the standard procedures. Perform transfection is 4~7 days after plating.

Table 1. A Guideline for siRNA transfection per cell culture vessel

Culture Dish	Growth Medium (ml)	Transfection Buffer (µL)	siRNA (pmoles) Final 30 nM	GenMute™ Reagent (µL)
24-well	0.5	50	15	1.5
12-well	0.75	75	23	2.0
6-well	1.0	100	30	3.0
60 mm	3.0	300	90	9.0
10 cm / Flask 75	8.0	800	240	20

Step III. siRNA Transfection Protocol:

For optimal siRNA-mediated silencing, we recommend using 25 nM siRNA. The following conditions are given per well in a 6-well plate. For other culture format, please refer to **Table 1**.

- For each well, add 1.0 ml of complete culture medium freshly 30~60 minutes before transfection.
- Dilute 30 pmoles siRNA (final concentration of 30 nM respectively per well) into 100 µl of working solution of GenMute™ Transfection Buffer prepared in **Step I**. Pipette up and down to mix.

  Note: For maximum gene silencing, dilute siRNA and GenMute™ reagent with GenMute™ Transfection Buffer (1x).
  We strongly suggest reconstituting siRNA stock solution at 15 µM, so add 2.0 µl siRNA stock solution per well of 6-well plate to make final 30 nM siRNA.
- Add 3.0 µl GenMute™ reagent, mix by pipetting up and down.
- Incubate for ~15 minutes at RT to let transfection complex form.

  Note: Never keep the complex longer than 30 minutes.
- Add the transfection mix to the cells drop wise. Gently rock the plate back and forth and return the plate to CO_2 incubator.
- Replace transfection medium by cell growth medium ~5 hours after transfection.
- Gene silencing is usually measured 24~48 hours post transfection.

Storage: GenMute™ siRNA Transfection Reagent is stable for up to 12 months at 4 °C. This item shipped at ambient temperature