PRODUCT INSERT

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Stability testing Dharmacon™ DharmaFECT™ transfection reagents

Summary

The stability of the four DharmaFECT™ Transfection Reagents was tested under six different storage conditions, including four different temperatures. Lipids were exposed to the different temperatures for a period of twelve hours (overnight) or exposed to one or three freeze cycles (simulating accidental storage of the lipids), and compared to the activity of lipids stored at the recommended temperature (4 °C). It was found that DharmaFECT Transfection Reagents are very stable and none of the tested conditions significantly affected cell viability or their ability to deliver siRNA efficiently under optimized conditions.

Experiment details

DharmaFECT 1, DharmaFECT 2, DharmaFECT 3, and DharmaFECT 4 were tested at the following conditions in order to simulate possible shipping/ storage conditions as well as a more extreme high temperature (53 °C).

1. One freeze cycle at –20 °C
2. Three freeze cycles at –20 °C
3. Room Temperature overnight
4. 37 °C overnight
5. 53 °C overnight
6. Insulated box with an ice pack, left overnight.

All samples were tested for delivery efficiency (branched DNA, Panomics, Inc.) and viability (alamarBlue™) in HeLa cells at the following parameters: 10,000 cells per well, 0.4 µL lipid per well of cells, 100 nM siGENOME™ Human Cyclophilin B siRNA (Cat. #D-004606-03), data taken 24 hours after transfection. All experimental samples were compared to samples treated with DharmaFECT siRNA Transfection Reagents stored at the recommended temperature of 4 °C.

Conclusion

None of the tested conditions significantly affected cell viability or their ability to deliver siRNA.

DharmaFECT siRNA Transfection Reagents are very stable under standard delivery and storage conditions (4 °C) and conditions that fall outside recommended storage.

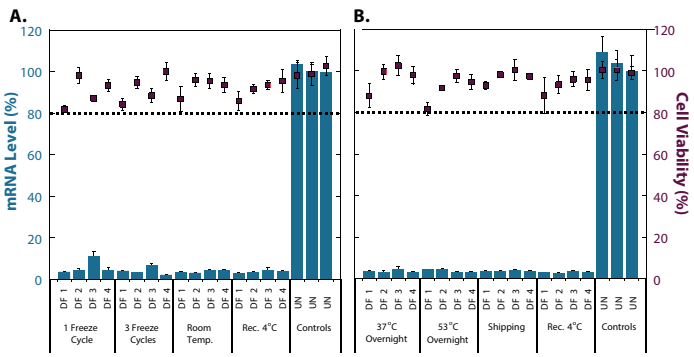

Figure 1. DharmFECT 1, 2, 3, and 4 were tested under six different storage conditions. In Figure 1A the following three conditions were tested: one freeze cycle at –20 °C, three freeze cycles at –20 °C, and room temperature overnight, and compared to the recommended conditions of 4 °C. In Figure 1B the following three conditions were tested: 37 °C overnight, 53 °C overnight, and insulated box with ice pack left overnight, and compared to the recommended conditions of 4 °C. HeLa cells were transfected with 0.4 µL DharmaFECT/well and 100 nM human siGENOME Cyclophilin B siRNA (Catalog #D-004606-03) at 10,000 cells per well. Cell viability was measured with alamarBlue™ and mRNA Levels were measured with branched DNA (Panomics, Inc.) at 24 hours. The acceptable cutoff for cell viability is 80%, as denoted by the green dotted line. The experimental control samples (UN) were untransfected cells.

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