

Stability testing DharmaconTM DharmaFECTTM transfection reagents

Summary

The stability of the four DharmaFECTTM 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. Real shipping conditions: insulated box with an ice pack, left overnight.

All samples were tested for delivery efficiency (branched DNA, Panomics, Inc.) and viability (alamarBlueTM) in HeLa cells at the following parameters: 10,000 cells per well, 0.4 µL lipid per well of cells, 100 nM siGENOMETM 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.

If you have any questions, contact

t +44 (0) 1223 976 000 (UK) **or** +1 800 235 9880 (USA); +1 303 604 9499 (USA)

f +44 (0)1223 655 581

w horizondiscovery.com/contact-us **or** dharmacon.horizondiscovery.com/service-and-support

Horizon Discovery, 8100 Cambridge Research Park, Waterbeach, Cambridge, CB25 9TL, United Kingdom

alamarBlue is a trademark of Thermo Fisher Scientific, Inc. ©2018 Horizon Discovery Group Company—All rights reserved. All trademarks are the property of Horizon Discovery Company unless otherwise specified. First published April 2016. UK Registered Head Office: Building 8100, Cambridge Research Park, Cambridge, CB25 9TL, United Kingdom.

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.

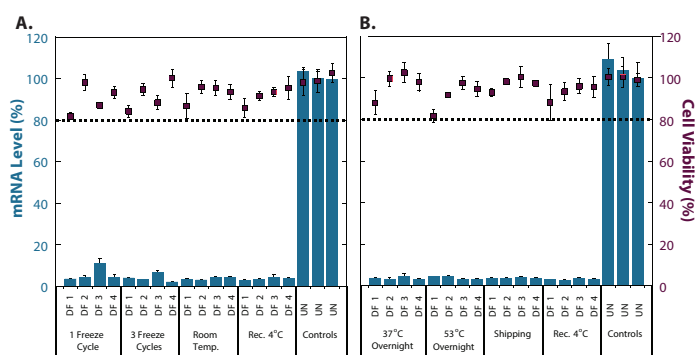


Figure 1. DharmaFECT 1, 2, 3, and 4 were tested under six different storage conditions. In Figure 1A the following three conditions were tested: one freeze cycle at -20 °C, three freeze cycles at -20 °C, and room temperature overnight, and compared to the recommended conditions of 4 °C. In Figure 1B the following three conditions were tested: 37 °C overnight, 53 °C overnight, and real shipping conditions (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 alamarBlueTM 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.