

Reproducibility Studies

Introduction

The precision or reproducibility of the Thermo Scientific NanoDrop 2000 Spectrophotometer was assessed measuring 10 individual aliquots of 8 concentrations of herring sperm dsDNA. Between each measurement, the sample was removed with a dry, lint free lab wipe and a fresh aliquot of dsDNA was analyzed.

A second reproducibility study on the NanoDrop™ 2000c was conducted using 8 different concentrations of herring sperm DNA diluted in azide buffer. Following a blank measurement with the buffer, 5 separate aliquots of the DNA sample solutions were measured using a 1 cm quartz cuvette.

NanoDrop 2000/2000c pedestal

Measurement 1	5.4	28.9	57.8	290.5	570.5	1713.6	3553.6	11377.2
Measurement 2	5.0	28.8	58.7	296.3	577.7	1705.5	3587.2	11215.5
Measurement 3	5.3	28.8	58.0	294.0	569.9	1735.0	3563.3	11272.7
Measurement 4	5.4	29.3	57.9	293.5	569.2	1715.0	3587.0	11312.3
Measurement 5	5.9	28.5	60.0	293.7	568.3	1721.2	3583.0	11280.0
Measurement 6	5.5	29.5	58.0	295.3	567.2	1708.9	3551.6	11245.9
Measurement 7	4.0	29.5	58.1	292.7	568.1	1732.8	3574.4	11337.3
Measurement 8	5.6	29.7	58.6	292.3	567.7	1712.9	3539.7	11302.7
Measurement 9	5.2	29.9	59.0	294.1	574.4	1743.2	3561.7	11246.4
Measurement 10	6.0	29.6	58.2	293.5	567.5	1720.0	3555.1	11402.1
Average (ng/uL)	5.3	29.3	58.4	293.6	570.1	1720.8	3565.7	11299.2
St Dev (ng/uL)	0.6	0.5	0.7	1.6	3.4	12.4	16.5	59.6
% CV	N/A	N/A	N/A	0.54	0.60	0.72	0.46	0.53

Reproducibility

2 - 100 ng/uL SD: ±2ng/uL

>100 ng/uL to ~15000 ng/uL %CV: 2%

NanoDrop 2000c cuvette (1cm quartz)

Measurement 1	0.4	0.6	0.9	2.2	4.1	24.7	48.6	71.9
Measurement 2	0.4	0.7	0.9	2.2	4.1	24.6	48.6	72.3
Measurement 3	0.3	0.6	1	2.1	4.1	24.8	48.7	72.1
Measurement 4	0.3	0.5	1	2.2	4.1	24.8	48.8	71.8
Measurement 5	0.2	0.5	1	2.3	4.1	24.8	48.8	72.3
Average (ng/uL)	0.3	0.6	1.0	2.2	4.1	24.7	48.7	72.1
St Dev (ng/uL)	0.08	0.08	0.05	0.07	0	0.09	0.1	0.23

Reproducibility

0.4 ng/uL to 10 ng/uL SD: ±0.15 ng/uL