DeNovix dsDNA Ultra High Sensitivity 2 Point Assay Instructions

Technical Note 146

Introduction

The DeNovix dsDNA Ultra High Sensitivity Assay enables accurate detection of purified double-stranded DNA (dsDNA) samples with a detection range from 5 pg to 3 ng total mass per assay tube. This is equivalent to sample concentrations of 0.5 pg/µL to 300 pg/µL.

Kit Contents

KIT- DSDNA-ULTRA-2 includes sufficient quantities of the concentrated buffers and dsDNA standards to perform 1000 assays based on 200 µL working reagent volumes per assay.

Component	Volume
DeNovix dsDNA Ultra High Sensitivity Dye (400x)	0.5 mL
DeNovix dsDNA Ultra High Sensitivity Buffer	200 mL
DeNovix dsDNA B Ultra High Sensitivity Enhancer (100x)	2 x 1 mL
300 pg/µL dsDNA Standard (calf thymus)	0.5 mL
0 pg/µL dsDNA Standard	0.5 mL

Best Practices

Pay careful attention to pipetting accuracy when quantitating low picogram amounts of dsDNA.

- Use properly calibrated pipettes and DNase-free pipette tips. Use the smallest calibrated pipettor available to dispense each sample volume.
- If sample dilutions are required, perform dilutions in the recommended assay tubes (DeNovix cat# TUBE-PCR-0.5-500 or equivalent).
- Prepare fresh working solution for each assay.
- Ensure all samples and standards are treated identically in terms of incubation times and temperature.
- Generate a new standard curve for each assay.

Sample Prep

1. Allow all solutions to equilibrate to room temperature before use. Vortex, then centrifuge vials briefly before opening to minimize reagent loss on the cap.
2. Prepare working solution by mixing 10 mL of the assay buffer with 25 µL of the dye and 100 µL of the enhancer. Scale volumes as needed to make enough volume to aliquot 200 µL of the mixture for each standard and unknown.
3. For each standard or unknown sample, add 200 µL of the working solution into a labeled tube.
   - Use only thin-walled, clear 0.5 mL PCR tubes for assay measurements (DeNovix cat# TUBE-PCR-0.5-500 or equivalent). Label only the top, not the sides of an assay tube.
4. Add 10 µL of the 0 pg/µL, 300 pg/µL standards or unknown DNA samples to the respective tubes and mix well. Avoid introducing air bubbles when mixing.
5. Incubate assay tubes at room temperature for 5 minutes. Protect from light.

Sample Measurements

1. Launch the Fluoro dsDNA app using a DeNovix fluorometer.
2. Use the drop-down menu to select the **DeNovix dsDNA Ultra High Sensitivity Assay**.
3. Select **Preconfigured 2 Standards** and then choose **Generate New Standard Curve**.
4. Insert the 0 pg/µL dsDNA standard, lower the lid and tap **Measure**.
5. Insert the 300 pg/µL dsDNA standard, lower the lid and tap **Measure**.
6. After both standards are measured, tap the **Samples** button, insert a sample tube and tap **Measure**.

Refer to Technical Note 147 available at www.denovix.com for additional information regarding reagent storage, solvent compatibility and multi-point standard curve instructions.

DeNovix Inc.
3411 Silverside Road
Wilmington, DE 19810 USA

Phone: +1.302.442.6911
Email:info@denovix.com
www.denovix.com

Version: October 2015