Sample IDs and Plate Set-Up Guide

Introduction

The Thermo Scientific™ NanoDrop 8000 Spectrophotometer offers several options for entering sample IDs. When making only a few measurements, it is easy to simply type in sample names prior to measurement or use the Manual Plate Set-up. When measuring more than just a few samples, the NanoDrop 8000 software enables the user to load a list of predefined sample IDs or names.

The lists may be created in Excel or Notepad but all lists must be saved as a .txt file. It is recommended that the files be stored in the Plate Files folder at *C:\ND-8000 Data*. When creating a file, enter all sample names in one column and the number of replicates desired for each sample in another column. Alternatively, sample names may be stored in an 8 x 12 array within a.txt file. A barcode reader can be used to scan in individual bar-coded sample names into the .txt file.

Define Plate File Format

Before a Sample ID list can be loaded, the user must use the Define Sample ID File format feature to specify in what order the sample names from the list should correspond to the well positions on the plate map displayed on the NanoDrop 8000 sample acquisition screen. Use the Data Series Type drop down box to select the proper sequence (rows or columns). Sample names will either fill in and correspond to well positions in **Rows** (first 12 sample IDs will correspond to the A1 to A12 positions, the next 12 IDs to the B1 to B12 positions etc) or in **Columns** (first 8 sample names will correspond to the A1 to H1 positions, the next 8 names to the A2 to H2 positions etc).

Note: Sample names may also be stored in an 8 x 12 array within a.txt file. The 8x12 format can only load one plate worth of sample ID's at a time (96 samples). As there is already a one to one direct correspondence with the on screen plate map when using this format, one does not use the Define Sample ID File Format button. Use the Load Sample ID File button to directly load 8 x 12 array sample ID information.

After selecting the proper series type, the user will need to define the header row and the number of replicates (if applicable). The example below shows an example .txt file and how it would be properly formatted so the data from measurements will be archived under the appropriate sample name and that the required number of replicates would be taken.

- Data formatted in columns (A1 to H1, then B1 to H2)

- Sample ID column marked as column 2

- One header row present

- Replicates column marked as column 3.

Once a plate file has been selected, the raw .txt file data can be viewed in spreadsheet format via the plate file data window in the upper right portion of the Define Sample ID File Format screen. The user can scroll through the entire plate file to ensure it is formatted as desired and all samples IDs are loaded. On the bottom of the screen the Sample to Well Position Assignments chart will display the actual sample names of all 96 samples as they will appear in the software and archived in the data.

Incorrect formatting will result in measured absorbances and concentrations being associated with the wrong sample IDs. The example below shows an *improperly* formatted plate file that does not account for the header row. The improper format is observed in the Sample to Well Position Assignments table with the label for the sample in position A1 coming in as Sample ID instead of DNA A1. All subsequent samples are offset by one and improperly labeled.

Note: Once a plate file format has been defined, the format will be retained and applied to all subsequent plate files (i.e. sample ID lists) until the user selects a different format. For this reason, it is important confirm the arrangement of the sample ID series for the imported plate file EVERY time the Load Plate File feature is used.
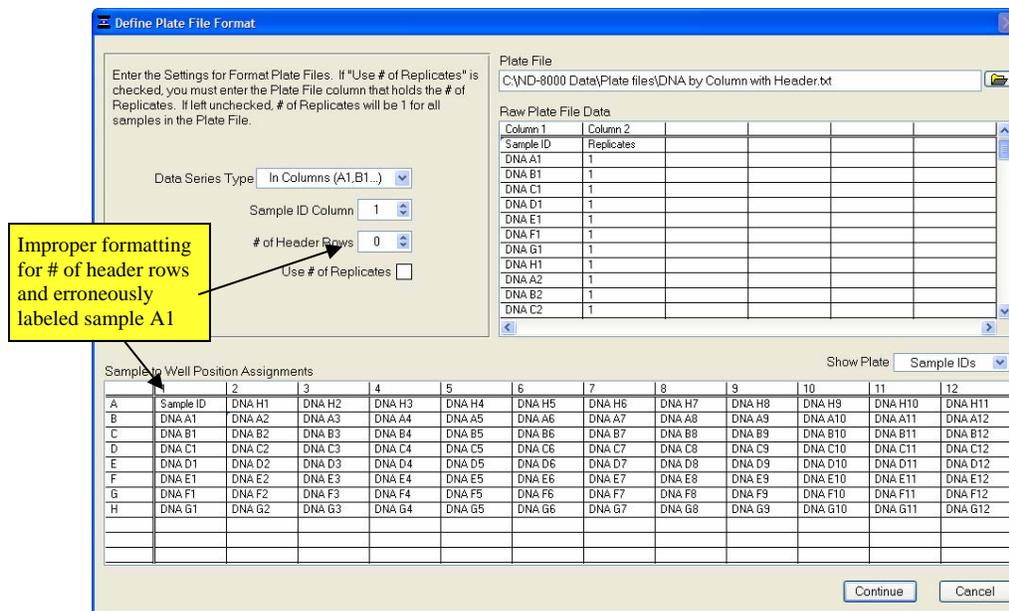
Sample ID Files With Over 96 Samples

Using the NanoDrop 8000 software, it is possible to use plate files with more than 96 sample IDs . When loading one of these files, a pop-up window will appear with the option of beginning on any plate (96 samples) and with any column. In the example below the researcher has opted to begin on plate number 2 and in column 3 (sample 112). If the sample well position assignments are not as expected , use the Define Plate Format button to return to the Define Plate File Format screen.