



# Nanodrop ND-1000 Spectrophotometer

## 1. Introduction

A Spectrophotometer Nanodrop located at the main laboratory of IBEC at the Hèlix building is available for use by all IBEC researchers.



The Nanodrop ND-1000 is a full-spectrum (220-750 nm) spectrophotometer that measures 1  $\mu$ l samples with high accuracy and reproducibility.

## Applications

The small sample requirement make the Nanodrop ideally suited for measuring:

- Nucleic acid concentration and purity of nucleic acid samples up to 3700 ng/ $\mu$ l (dsDNA) without dilution.
- Fluorescent dye labeling density of nucleic acid microarray samples
- Purified protein analysis (A280) up to 100 mg/ml (BSA)
- Expanded spectrum measurement and quantitation of fluorescent dye labeled proteins, conjugates, and metalloproteins.
- Bradford Assay analysis of protein
- BCA Assay analysis of protein
- Lowry Assay analysis of protein
- Cell density measurements
- General UV-Vis spectrophotometry

To find out more information about the Nanodrop ND-1000 please visit the Nanodrop website at [www.nanodrop.com](http://www.nanodrop.com) .

## 2. User Pre-requisites

- Only IBEC researchers can use the Nanodrop ND-1000.



- Before using the Nanodrop you must obtain an individual account on the equipment computer. To obtain it, please contact the Core Facilities staff at [corefacilities@ibecbarcelona.eu](mailto:corefacilities@ibecbarcelona.eu).
- With your personal user name and password you can access the computer locally to run the instrument or from your personal computer to retrieve your data.

**You must not disclose your password to any person who is not authorized to use the instrument.**

### 3. Reservations

- To access the instrument, you have to book it previously using the online booking application.
- If you are 30 minutes late after the start of the booking-time the whole reservation is considered cancelled and the equipment is available to everybody.
- Appointments that cannot be held must be cancelled as early as possible in order to free up the slots for other users.

### 4. Usage Rules

- Wear powder-free gloves and change them frequently to help prevent contamination of the samples.
- Verify that the solvent you are using is compatible with the Nanodrop.
- To obtain good results with the Nanodrop the cleaning process of the pedestals during and after the measurements is very important. Here you have some recommendations:
  1. Wiping the sample from both the upper and lower pedestals to prevent sample carryover and avoid residue buildup.
  2. **After particularly high concentration samples, use 2  $\mu$ l of water to clean the measurement surfaces.** With this step you ensure no residual sample is retained on either pedestal.
  3. **After measuring large numbers of samples, it is recommended that the areas around the pedestals be cleaned meticulously.** This will prevent the wiping after each measurement from carrying previous samples onto the measurement pedestals.
- **After the user's last measurement, a final cleaning of all surfaces with de-ionized water is mandatory. Do not use a squirt bottle to apply the de-ionized water, use a pipette instead. :**
  1. **Apply 5  $\mu$ l of de-ionized water to the bottom pedestal**



2. **Lower the upper pedestal arm to form a liquid column; let it sit for approximately 2-3 minutes.**
  3. **Wipe away the water from both the upper and the lower pedestals.**
- Finally leave the area around the machine cleaned, logged off the computer and sign the “Control Notebook”.

## 5. Data storage and retrieval

- **All Your files must be saved to the location indicated to you:**
  1. Click on “**My computer**”, then on “**Local disk (C:)**”.
  2. Access the “**SHARING**” directory to enter your personal folder.In order to make the access to your personal folder easier you can create a shortcut of it on your desktop.
- Notice that files stored in other areas are subjected to possible deletion.
- **The use of a USB to retrieve your data is not recommended**, instead you can access to the computer using the local area network to do so:
  1. Use the following IP address on the Internet Explorer: \\10.6.46.48
  2. Access the directory “**SHARING**”.
  3. Enter your personal folder, using your username and password.

## 6. General

- If you have any problems with the Nanodrop ND-1000, please report them to the Core Facilities Unit at [corefacilities@ibecbarcelona.eu](mailto:corefacilities@ibecbarcelona.eu).