# Checking RNA-content of samples with the NANODROP

## Principle

Once RNA was extracted from plant samples, it can be checked with the Nanodrop.
The Nanodrop is quantitative (expressing results as ng RNA / µl sample) as well as pseudo-qualitative with the 260/280 and 260/230 ratios. The Nanodrop works following the same principle as classic spectrometers. Check the Nanodrop Manual on Nanaodrop.com for more information (http://www.nanodrop.com/library/nd-1000-v3.7-users-manual-8.5x11.pdf).

## Equipment

| **Machine/Product** | **Reference (Company, Type, …)** |
|---|---|
| Nanodrop ND1000 + software | Thermo Scientific |
| Micropipette (1.5 µl) | |
| RNase-free pipette tips | |
| RNaseZAP® | Life Technologies AM9780 |
| RNase-free water | |
| Paper wipe tissues | |

## Procedure

 Always wear gloves and work on clean surfaces.

*Preparation*

- Remove the RNA samples from the -20°C freezer and thaw them on ice.
- Flick & spin down
- Start up the ND1000 software (icon on desktop)
- Choose “Sample Type” -> “RNA-40”
- Clean the nanodrop electroptics with RNaseZAP

*Calibration*

- Pipette 1.5 µl RNase-free water on the electroptic
- Carefully close and click OK in the software.

*Measurement*

 Wipe the electroptics clean after each sample

- Pipette 1.5 µl RNase-free water on the electroptic
- Carefully close and click “Blank” in the software.
- Wipe the electroptics clean
- Pipette 1.5 µl sample on the electroptic
- Carefully close, enter the sample ID and click “Measure” in the software.
- Repeat the process for all samples

*Interpretation of the results*

- Ratio 260/280 should be between 1.8 and 2.1 (<1.8 could be a problem)
- Ratio 260/230 should be between 1.8 and 2.2 (<1.8 could indicate a guanidine contamination)
- The results in RNA ng.µl$^{-1}$ are used to calculate the dilution to use when starting the cDNA production.