dsDNA Quantification Kit – High Sensitivity (for Fluorometer)

#GQ04.0500 (500 assays)
(FOR RESEARCH ONLY)

Product: GRiSP´s dsDNA Quantification Kits provide an easy and fast method for the quantification of double-stranded DNA (dsDNA). This High Sensitivity (HS) kit was developed for use with Fluorometer (e.g. Qubit® and Quantus™) and is accurate and reliable over a linear range from 0.1ng to 120ng.

GRiSP´s dsDNA Quantification Kits are highly specific for double-stranded DNA. Presence of single-stranded DNA (ssDNA) or RNA does not interfere with the measurements. Other commonly present contaminants in DNA samples, such as proteins, ethanol, phenol, free nucleotides, detergents (SDS, Triton X-100), and salts (NaCl, $MgCl_2$, acetate) also have little to no effect on the fluorescence signal.

Applications: Quantification of dsDNA over a Broad Range (0.1-120ng) using a Fluorometer

Contents: The dsDNA Quantification Kit – High Sensitivity (for Fluorometer) contains sufficient reagents for 500 assays.

Component	GQ04.0500
High Sensitivity Dye	1.25 ml
Dilution Buffer (HS)	250 ml
dsDNA standards (2 in total) *	5 ml (each)

* (concentrations of 0 and 10ng/µl)

Properties:
Fast, Accurate and Reliable
Broad Range from 0.1ng to 120ng
Highly Specific for dsDNA
Compatible with Qubit® and Quantus™ Fluorometers

Storage: Store the High Sensitivity Dye and the dsDNA standards at +4ºC, protected from light, for up to 1 year. Dilution Buffer can be stored at either at room temperature or +4ºC for up to 1 year. Before usage, allow the Dilution Buffer to warm up to room temperature as the assay should be carried out at Rt (22-28ºC).

Prior to use

1. Equilibrate Dilution Buffer, if stored at 4ºC, to room temperature
2. Create custom protocol on the Qubit® or Quantus™ Fluorometer according to respective manufacturer's instructions
3. Use appropriate assay tubes (not included), according to respective manufacturer's instructions

Protocol

1. Using a clean plastic tube/container, prepare a Working Solution by mixing for each assay 1 µl of High Sensitivity Dye with 200 µl of Dilution Buffer (warmed up to room temperature). **Do not** use a glass container! (e.g. for 20 samples/standards, mix 20 µl Dye with 4 ml Buffer).
2. Label the lids of the assay tubes for each sample and for the 2 standards. Do not label on the side as this may interfere with measurement.
3. Pipet 190 µl of the working solution to the tubes for the 2 standards.
4. Vortex the dsDNA standards for 2-3 seconds and add 10µl of each standard in the corresponding assay tube. Mix by vortexing for 2-3 seconds.
5. Pipet 180-199µl of the working solution to the tubes for the samples (depending on the volume of the sample; sample volume can vary between 1-20µl as the final volume in each tube should be 200µl)
6. Add 1-20 µl of sample to the corresponding assay tube and vortex for 2-3 seconds.
7. Incubate at Rt for 2 minutes.
8. Read standards and samples using the Fluorometer according to manufacturer´s instructions.

Notes:

1. The Dye has high photostability (less than 0.3% fluorescence drop after 10 readings). However, fluorescence will decrease after multiple readings if the assay tube remains in the fluorometer, due to the increase of temperature inside the fluorometer. Therefore, it is advised that if multiple readings of a single assay tube are required, to remove the tube form the fluorometer and wait for one minute before taking next reading.
2. Depending on the sample volume, the assay is accurate for sample concentrations varying from 5pg/µl to 120ng/µl, providing a linear assay range of 100pg - 120µg. If the reading is outside this range, adapt the volume sample and/or dilute if required.
3. One can prepare working solution for multiple experiments, as the mixture is stable for up to 2 months if protected from light and stored at +4ºC.