

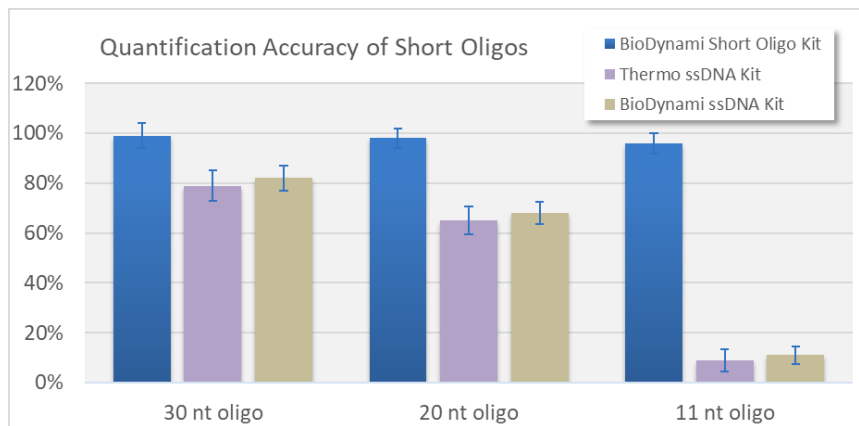
## Short Oligo Quantification Kit

(For use with the Qubit® Fluorometer)

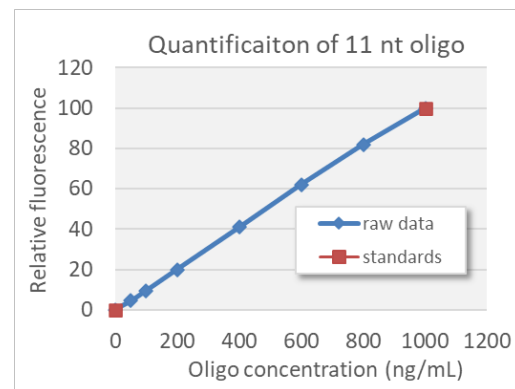
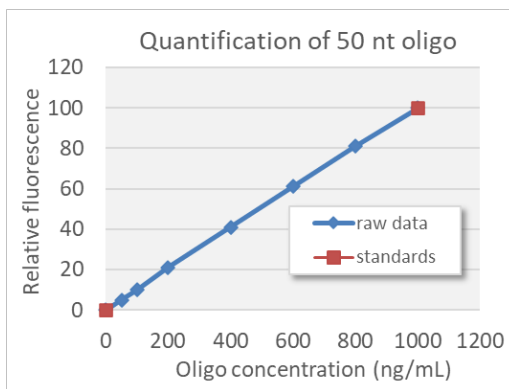
Catalog No. 40046S: 100 assays  
 Catalog No. 40046L: 500 assays  
 Storage: at 4°C and room temperature upon receive.

### Description

Long oligos (>50 nt) and ssDNA can be quantified with ssDNA Quantification kits using a Qubit Fluorometer. However, it is difficult to quantify the concentration of oligos that are shorter than 50 nt due to the inaccuracy of the data. To address the issue, we have developed the **Short Oligo Quantification Kit** for the quantification of oligos that are shorter than 50 nt using Qubit Fluorometer. The kit can quantify the concentration of oligos as short as 11 nt.



The kit includes Short Oligo Dye, Short Oligo Dilution Buffer, and two Standards. Simply dilute the Dye with the Dilution Buffer, add oligo sample (volume from 1 to 20 µL), then read the oligo concentration using the Qubit® Fluorometer. The assay is accurate for oligo concentrations from 50 pg/µL to 200 ng/µL based on the line corresponding of the data to standards.



### Features

- Quantify the concentration of oligos from 11 to 50 nt
- Use the Qubit® ssDNA assay setting
- Linear range: 1-200 ng oligo

## Component

	Cat.# 40046S	Cat.# 40046L
• Short Oligo Dilution Buffer	50 mL	250 mL
• Short Oligo Dye	0.25 mL	1.25 mL
• Short Oligo Standard 1 (0 ng/μL)	1 mL	5 mL
• Short Oligo Standard 2 (20 ng/μL)	1 mL	5 mL

## Storage Condition

- Short Oligo Dye (protect from light): store at room temperature or 4°C, stable for 6 months.
- Short Oligo Standards: store at 4°C, stable for 6 months.
- Short Oligo Dilution Buffer: store at room temperature, stable for 6 months.

## Reagent & Equipment Needed (not provided in this kit)

- Plastic container (disposable) for diluting the ssDNA Dye with the ssDNA Dilution Buffer
- Assay tubes (BioDynamy Cat. # 40045 recommended)

## Assay Parameters

**Assay temperature:** The assays are designed to be performed at room temperature (22-28°C). Store the Dilution Buffer at room temperature.

**Incubation time:** To get optimal fluorescence, incubate the assay tubes for 2 minutes after mixing the sample or standard with the working solution. The fluorescence signal is stable for 1 hour at room temperature after the incubation period.

**Reagent photobleaching:** The reagent has high photostability with <0.3% fluorescence drop after 5 readings. However, if the assay tube remains in the fluorometer for multiple readings, the fluorescence will decrease as the temperature of solution will increase. If multiple readings of a single tube are needed, remove the tube from the fluorometer and wait for 30 seconds before taking next reading.

## Protocol

This protocol includes the preparation of standards for the Qubit® Fluorometer calibration.

- 1) Label the tube lids for two standards and samples. **Note:** Do not label the side of the tubes as this could interfere with the sample read.
- 2) Prepare the working solution by diluting the **Short Oligo Dye** 1:200 in **Short Oligo Dilution Buffer** in a clean plastic tube (Do not use glass container). **Note:** The final volume in each tube must be 200 μL. Each standard tube requires 190 μL of working solution. Each sample tube requires 180-199 μL.
- 3) Add 190 μL of working solution to the tubes for standards.
- 4) Vortex **Short Oligo Standards** for 2–3 seconds. Add 10 μL of each standard to the appropriate tube, mix by vortexing 2–3 seconds.
- 5) Add working solution to individual assay tubes so that the final volume in each tube after adding sample is 200 μL. **Note:** Sample volume can be 1-20 μL.
- 6) Add sample to the assay tube containing the working solution, mix by vortexing 2–3 seconds. The final volume in each tube should be 200 μL.
- 7) Incubate tubes at room temperature for 2 minutes.
- 8) Reading standards and samples: follow the procedure (ssDNA setting) of your Qubit Fluorometer.

### Quality Control

Kit components passed stringent functional quality test.

### Product Use Limitation

This product is developed and sold for research purposes and *in vitro* use only. Please refer to BioDynamy.com for Material Safety Data Sheet of the product.


### Limited Label License

The product is developed and sold exclusively for research purposes and *in vitro* use only. The product or its any individual component has not been tested for use in diagnostics or drug development, and is not suitable for administration to human or animal.

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Note: Qubit is a registered trademark of Thermo Fisher Scientific.

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Jun. 2023