Ver. HB221028

1×dsDNA HS Assay Kit

Product description

1×dsDNA HS Assay Kit for Qubit® is a rapid, highly sensitive and accurate fluorescent quantitative detection kit for double-stranded DNA (dsDNA). This kit is highly selective for dsDNA and has good linearity in the range of 0.2 ng-100 ng, the quantitation range is between 10 pg/μL to 100 ng/μL. This kit is easy to operate, providing a ready-to-use working solution that enables simple dsDNA sample quantification on Qubit® Fluorometer or Fluorescence Microplate Reader. It is ideal choice for NGS large-scale DNA sample quantification (such as input DNA quantification, DNA library quantification, etc.). This kit is well tolerated to common contaminants such as proteins and salts.

Components

Components No.	Name	Concentration	12642ES60 (100 T)	12642ES76 (500 T)
12642-A	1×dsDNA HS Working Solution	1×concentrate in DMSO	50 mL	250 mL
12642-B	dsDNA Standard 1	0 ng/μL in TE buffer	1 mL	5×1 mL
12642-C	dsDNA Standard 2	10 ng/μL in TE buffer	1 mL	5×1 mL

Specifications

Assay	dsDNA Quantitation（ready-to-use）
Excitation/Emission	480/520
For Use With (Equipment)	Qubit Fluorometer
No. of Reactions	100T/500T
Product Line	Qubit Quantitation
Quantitation Range	10 pg/μL to 100 ng/μL
Sample Volume	10 μL to 20 μL
Detection Method	Fluorescent

Shipping and Storage

All the components are shipped with ice pack and can be stored at 2-8°C away from light for one year.

Instructions

1. Experimental Preparation

1) Equilibrate the components to room temperature before use.
2) Prepare enough 0.5 mL PCR tubes and label them. Do not lable the side wall of the PCR tube as this could interfere with the collection of fluorescent signals. Qubit® assay tubes (Cat. No. Q32856) and Axygen® PCR-05-C tubes (Cat. No. 10011-830) are recommended.

2. Prepare standards and sample

1) Prepare the standard. Add 190 μL of detection working solution to standard PCR tubes, then add 10 μL of dsDNA Standard 1 and dsDNA Standard 2 to the appropriate tube. Vortex gently for 2-3 sec and avoid creating air bubbles.

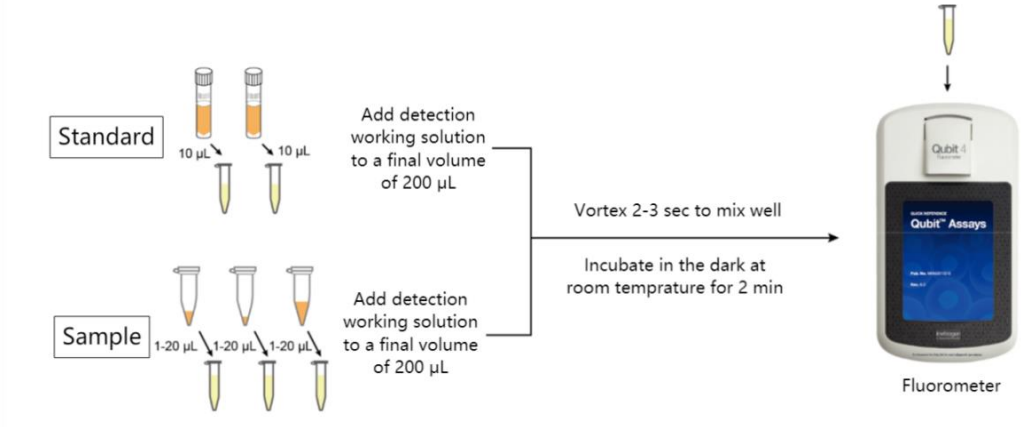
2) Prepare the sample. Add 180-199 μL of the detection working solution to the sample PCR tube, then add 1-20 μL of the samples to be tested respectively. The final volume of each sample is 200 μL. Vortex gently for 2-3 sec and avoid creating air bubbles.

3. Detection

1) Incubate at room temperature for 2 min in the dark.

2) According to the operating instructions of the Qubit® Fluorometer, select the dsDNA High Sensitivity detection program to measure the fluorescence signal value.

1×dsDNA quantitative detection analysis using the Qubit® Fluorometer



Appendix

Table1 Effects of contaminants on the results of dsDNA quantitative detection kits

Contaminants	Concentration in 10 μL sample	Concentration of sample	Detection results
Salts			
Ammonium acetate	200 mM	10 mM	OK
Sodium acetate	200 mM	10 mM	OK
Sodium chloride	200 mM	10 mM	OK
Magnesium chloride	40 mM	2 mM	OK
Organic Solvents			
Phenol	2%	0.1%	OK
Ethanol	20%	1%	OK
Chloroform	4%	0.2%	OK
Detergents			
Sodium dodecyl sulfate	0.2%	0.01%	OK
Triton X-100	0.02%	0.001%	OK
Other Compounds			
Bovine serum albumin	400 μg/mL	20 μg/mL	OK
RNA	1× *	1× *	OK

dNTPs	2 mM	100 μM	OK
Polyethylene glycol	20%	1%	OK
Agarose	2%	0.1%	OK

*[1×] means the concentration of contained RNA is same as the dsDNA.

Notes

1. All fluorescent dyes have quenching problems, please avoid light to slow down fluorescence quenching.
2. For DNA standards, invert upside down several times and centrifuge briefly for a few seconds before use (do not vortex).
3. For your safety and health, please wear lab coats and disposable gloves for operation.
4. For research use only.
5. Qubit® is a trademark of ThermoFisher.