

Qubit and Quant-iT 1X dsDNA Assay Kits



Greener by design™

 **Less waste:**
up to 9% less plastic material in kit; 9% less plastic waste generated

Learn more at thermofisher.com/greenerbydesign

Introduction

We are committed to designing our products with the environment in mind. This fact sheet provides the rationale behind the environmental claim that Invitrogen™ Qubit™ and Quant-iT™ 1X dsDNA High Sensitivity (HS) and 1X dsDNA Broad Range (BR) Assay Kits use less material and generate less waste than Invitrogen™ Qubit™ and Quant-iT™ dsDNA HS and BR Assay Kits.

Product description

Qubit 1X dsDNA Assay Kits are DNA quantitation kits designed specifically for use with Invitrogen™ Qubit™ fluorometers. The assays are highly selective for double-stranded DNA (dsDNA) over RNA and simplify the nucleic acid quantitation workflow while providing accurate results.

The “1X” dsDNA HS and BR assay kits provide the reagent and buffer in a formulation that is stable as a ready-to-use solution for up to 6 months after being received by the user. Simply add your sample (in any volume between 1 µL and 20 µL) to the 1X working solution, mix, and read the concentration using a Qubit Fluorometer. Common contaminants such as salts, free nucleotides, solvents, detergents, and proteins are well tolerated in the assay. Quant-iT 1X dsDNA Assay Kits offer the same benefits, but are designed for higher-throughput use.

Green feature

Less waste and fewer resources

With the Qubit and Quant-iT 1X dsDNA HS and 1X dsDNA BR Assay Kits, instead of supplying the assay reagent and dilution buffer in separate bottles as was done with the Qubit and Quant-iT dsDNA HS and BR Assay Kits, we have reformulated the components to supply these reagents in a single bottle. This offers a simplified workflow while reducing the number of tubes in this kit, therefore reducing the amount of plastic usage by up to 9% (Table 1). Additionally, by combining the reagents, we are also eliminating a step in the procedure where the assay reagent needs to be added to the dilution buffer.



This means less time is spent preparing the assay, and fewer pipette tips are needed. We estimate that by making these changes to our 1X dsDNA kits, we will prevent over 40 kg of plastic waste from going to landfill each year, which translates to

120 kg of CO₂ equivalents, or the CO₂ emissions from burning 134 pounds of coal [1]. Designing our products to use less material is one small way we are helping our customers reduce their environmental footprint.

Table 1. Comparison showing packaging mass reduction with the Qubit and Quant-iT 1X dsDNA Assay Kits.

No. of assays	Qubit dsDNA Assay Kit		Qubit 1X dsDNA Assay Kit		
	Total mass of plastic packaging (g)	Cat. No.	Total mass of plastic packaging (g)	Cat. No.	Plastic reduced in 1X dsDNA assay (%)
100	17.5	Q32851	15.9	Q33230	9
500	28.3	Q32854	26.7	Q33231	6
1,000	41.3	Q33120	39.7	Q33232	4

Reference

1. US EPA: Greenhouse Gas Equivalencies Calculator (accessed July 27, 2021). <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

 Find out more at thermofisher.com/qubit

invitrogen