



# Quant-iT™ Assays for high-throughput quantitation of DNA, RNA, and oligos



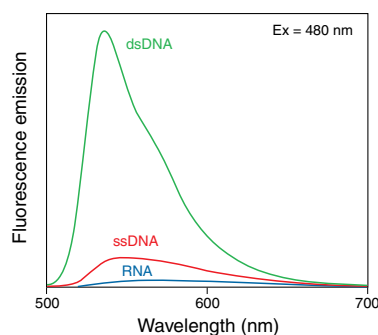


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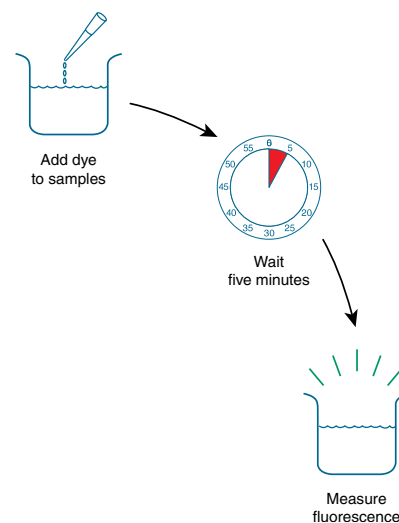
- Selective quantitation—more accurate than UV absorbance readings
- High sensitivity—use as little as 1 µl or 5 pg/µl of your sample
- Simple assay design—mix-and-read format for simple high-throughput quantitation
- Economical packaging—ideal for large-scale automated analysis

## Better technology, better results

Quant-iT™ Assays (Table 1) use advanced fluorophores that become fluorescent upon binding to DNA or RNA; the fluorescence intensity of the resulting complex depends directly on the amount of the target molecule in the sample. Quant-iT™ Technology gives more accurate results than can be obtained with UV absorbance readings, because the Quant-iT™ Reagents only report the molecule of interest—there's no interference from free nucleotides or other contaminants (Figure 1). And more accurate quantitation means higher confidence for the success of downstream experiments. Additionally, this streamlined mix-and-read assay format allows simple quantitation of hundreds or thousands of samples, using 96- or 384-well plates in robotic liquid handling systems (Figure 2).



**Figure 1—dsDNA specificity of PicoGreen® dsDNA Reagent.** Fluorescence enhancement of the Quant-iT™ PicoGreen® dsDNA Reagent upon binding dsDNA, ssDNA, and RNA, demonstrating the strong selectivity of this reagent for dsDNA.



**Figure 2—Format of the Quant-iT™ Assays.** Quant-iT™ Assays use a simple mix-and-read format.

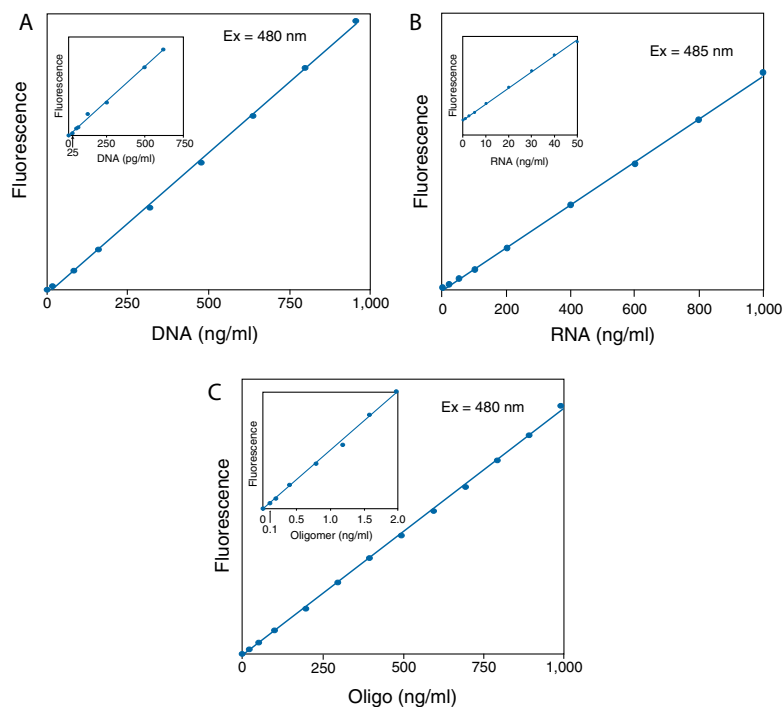
## Save your samples

It's important to get accurate quantitation while still leaving sufficient sample for downstream applications. Quant-iT™ Reagents are up to 1,000 times more sensitive than UV absorbance readings (Figure 3); as little as 1 µl of your sample is all that's needed to get reliable results.

These Quant-iT™ products provide the maximum amount of dye in packaging that is amenable to highly automated quantitation environments. They are the best choice for quantitating more than 2,000 samples at a time.

These products are available in two forms:

- Concentrated Quant-iT™ Reagents
- Quant-iT™ Kits with buffer and a standard included



**Figure 3—Nucleic acid quantitation using Quant-iT™ Reagents.** **A** The fluorescence signal from binding of the Quant-iT™ PicoGreen® dsDNA Reagent to dsDNA is linear over at least four orders of magnitude; the inset shows the results obtained using 0–750 pg/ml calf thymus DNA. **B** The Quant-iT™ RiboGreen® RNA Assay provides linear quantitation from 20 ng/ml to 1 µg/ml RNA using a 400-fold dilution of the dye; the inset shows the results for 1.0 ng/ml to 50 ng/ml RNA obtained using a 4,000-fold dilution of the dye. **C** Quantitation of a synthetic 24-mer using the Quant-iT™ OliGreen™ ssDNA Reagent is linear over at least four orders of magnitude; the inset shows the results obtained using 0–2.0 ng/ml of oligo.

**Table 1—Quant-iT™ Reagents and Kits.**

| Product  | Concentration  | Applications  |
|--|--|---|
| Quant-iT™ PicoGreen® dsDNA Reagent *2,000 assays*  |  |   |
| Quant-iT™ PicoGreen® dsDNA Assay Kit *2,000 assays*<br>(includes PicoGreen® Reagent, 10X buffer, and standard λ DNA)   | 2.5 pg/μl to 100 ng/μl dsDNA<br>(>200 bp)  | Genomic DNA<br>Viral dsDNA<br>PCR products<br>Plasmid preps<br>Subcloning fragments<br>Genotyping       |
| Quant-iT™ RiboGreen® RNA Reagent *2,000 assays*  |  |   |
| Quant-iT™ RiboGreen® RNA Assay Kit *2,000 assays*<br>(includes RiboGreen® Reagent, 10X buffer, and standard RNA)       | 10 ng/μl to 100 ng/μl RNA<br>(>500 bp; not specific for RNA over DNA)            | RNase protection assays<br>Microarray samples<br>Real-time PCR samples<br><i>In vitro</i> transcription |
| Quant-iT™ OliGreen™ ssDNA Reagent *2,000 assays*   |  |   |
| Quant-iT™ OliGreen™ ssDNA Assay Kit *2,000 assays*<br>(includes OliGreen® Reagent, 10X buffer, and standard oligo DNA) | 1 pg/μl to 100 ng/μl ssDNA<br>(>10 bp; not specific for ssDNA over dsDNA or RNA) | Primers<br>Antisense oligos<br>Denatured genomic DNA<br>Aptamers<br>Single-stranded phage DNA           |

## Ordering Information

| Product  | Quantity | Cat. no. |
|--|----------|----------|
| Quant-iT™ PicoGreen® dsDNA Assay Kit               | 1 kit    | P7589    |
| Quant-iT™ PicoGreen® dsDNA Assay Kit *10 x 100 μl* | 1 kit    | P11496   |
| Quant-iT™ PicoGreen® dsDNA Reagent                 | 1 kit    | P7581    |
| Quant-iT™ PicoGreen® dsDNA Reagent *10 x 100 μl*   | 1 kit    | P11495   |
| Quant-iT™ RiboGreen® RNA Reagent *2,000 assays*    | 1 kit    | R11491   |
| Quant-iT™ RiboGreen® RNA Assay Kit *2,000 assays*  | 1 kit    | R11490   |
| Quant-iT™ OliGreen™ ssDNA Reagent *2,000 assays*   | 1 kit    | O7582    |
| Quant-iT™ OliGreen™ ssDNA Assay Kit *2,000 assays* | 1 kit    | O11492   |

For more information, visit our website at [probes.invitrogen.com/products/quantitation](http://probes.invitrogen.com/products/quantitation).

