

## Low Abundance DNA Quantification Kit

The amount of DNA that can be extracted from different biological or clinical samples varies greatly. For example, while a few micrograms of DNA could be easily purified from tissues and cells in excess amount (such as from a few milligrams of tissue), many liquid biopsy samples may yield very low amounts of DNA. In fact, samples such as urine or plasma may yield 1 - 100 ng or less DNA per 100  $\mu$ L of sample. The most commonly used technique for measuring DNA concentration is the determination of absorbance at 260 nm ( $A_{260}$ ). However, even with the new generation of spectrophotometers, the detection limit of this method is still above 2 - 10 ng per  $\mu$ L. Additional technologies, such as the use of fluorescent nucleic acid stains, has enabled the quantification of DNA at the lower ng or sub-ng per

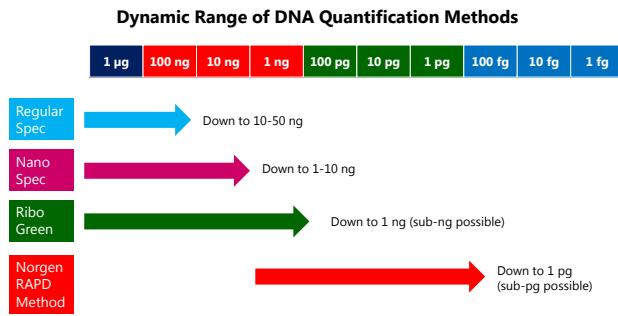


$\mu$ L range. However, this may not completely overcome the difficulties in quantifying DNA from liquid biopsies where the expected DNA yield could be in the lower pg or sub-pg per  $\mu$ L range.

Norgen's Low Abundance DNA Quantification Kit offers a PCR-based detection procedure to quantify DNA of a wide spectrum of concentrations, including the lower ng per  $\mu$ L, pg per  $\mu$ L and sub-pg per  $\mu$ L range. The kit consists of a specially designed primer mix, that is used in conjunction with the provided 2x PCR Master Mix, to amplify human DNA from different types of inputs (such as various liquid biopsies). The kit is compatible with any Real-Time PCR system with the addition of fluorescent nucleic acid stains such as SYBR Green. The unknown DNA is accurately quantified by using a standard curve constructed from the provided DNA Standard.

### Urine Cell-Free Circulating DNA Purification Mini Kit Benefits

Wide Spectrum	Quantify DNA of a wide spectrum of concentrations, including the lower ng per $\mu$ L, pg per $\mu$ L and sub-pg per $\mu$ L range
Flexible	Compatible with any Real-Time PCR system
Accurate	DNA is accurately quantified by using a standard curve constructed from the provided DNA standard



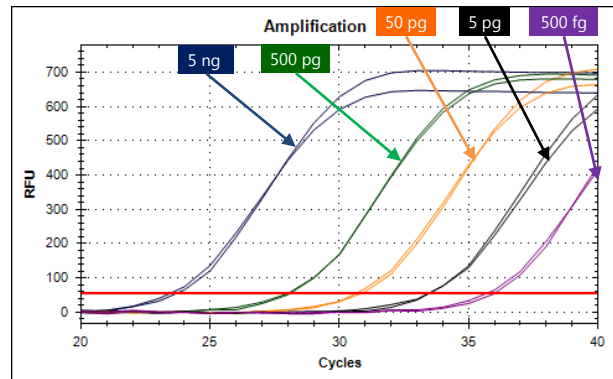
**Figure 1. Sensitivity of DNA Quantification of the Low Abundance DNA Quantification Kit Compared to Other Methods.** A diagram representing the dynamic range of different DNA quantification methods is presented here. The Low Abundance DNA Quantification Kit can quantify purified DNA from low abundance samples in the pg and sub-pg range.

**Low Abundance DNA Quantification Kit Contents:**

1. 2X PCR Master Mix
2. DNA Quantification Primer Set Mix
3. Quantified DNA Standard
4. Nuclease-Free Water
5. Product Insert

**Storage Conditions**

Upon receipt, store Norgen's Low Abundance DNA Quantification Kit at -20°C or lower. Avoid multiple freeze-thaw cycles. If needed, prepare smaller working aliquots and store at -20°C or lower.



**Figure 2. Sensitivity of RNA Quantification in the Picogram Range using the Low Abundance RNA Quantification Kit.** A representative qPCR Baseline Graph showing the amplification of an RNA standard dilution series. The Low Abundance RNA Quantification Kit can quantify purified RNA from low abundance samples such as liquid biopsies (plasma or urine). As little as 500 fg of RNA can be quantified using Norgen's kit.

*Customer-Supplied Reagents and Equipment*

- Appropriate Real-Time PCR Instrument
- SYBR Green I (Life Technologies, Cat# S7563)
- DNA Purification Kit
  - ◊ The kit is compatible with all DNA purification kits that yield high quality, inhibitor-free DNA
  - ◊ Recommended Purification Kit: Norgen Biotek's purification kits for DNA isolation, including:
    - Plasma/Serum Cell-Free Circulating DNA Purification Mini Kit - Cat# 55100
    - Urine DNA Isolation Micro Kit - Cat# 18100
- Disposable powder-free gloves
- Benchtop microcentrifuge
- Micropipettors
- Sterile pipette tips with filters □ PCR tubes

Cat #	Description	Quantity
57200	Low Abundance DNA Quantification Kit	48 rxns