

Plasma/Serum Cell-Free Circulating DNA Purification Kits

(MICRO, MINI, MIDI, MAXI)

CAT. 55500, 55100, 55600, Dx55800, DX55500,
Dx 55100, Dx 55600, Dx 55800

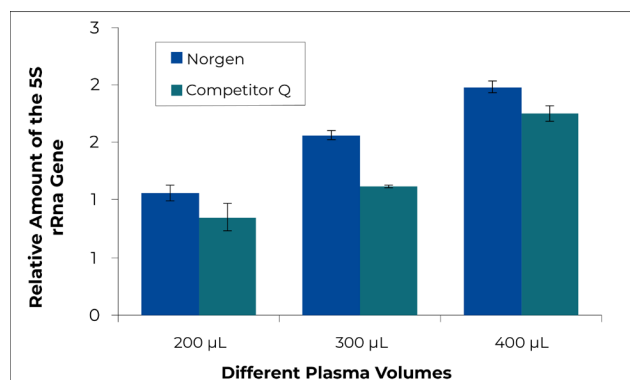


- ✓ Isolate inhibitor-free cell-free circulating DNA
- ✓ Purify superior quantity and quality DNA in 45 minutes
- ✓ Versatile plasma and serum input volumes (10 μ L - 10 mL)
- ✓ Concentrate cfc-DNA and ct-DNA into a flexible elution volume ranging from (25 μ L - 50 μ L)
- ✓ Minimal high molecular weight gDNA contamination in the purified cfc-DNA
- ✓ Compatible with fresh, preserved or frozen serum/plasma prepared from blood collected on either Norgen's cf-DNA/cf-RNA Preservative Tubes (Cat. 63950, Dx63950), Cell-Free DNA BCT® (Streck), Heparin, EDTA or Citrate
- ✓ Purification is based on Norgen's unique SiC affinity matrix



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Advantages You Will Bring to Your Lab

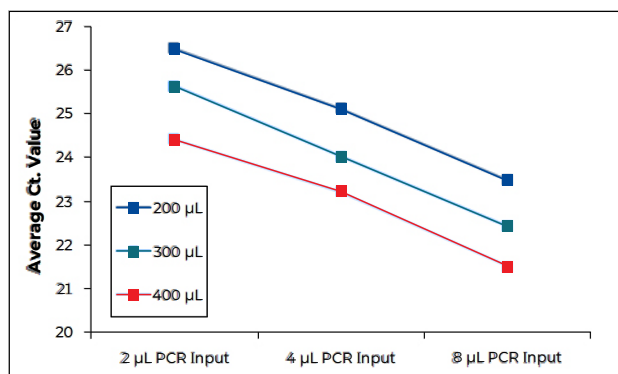
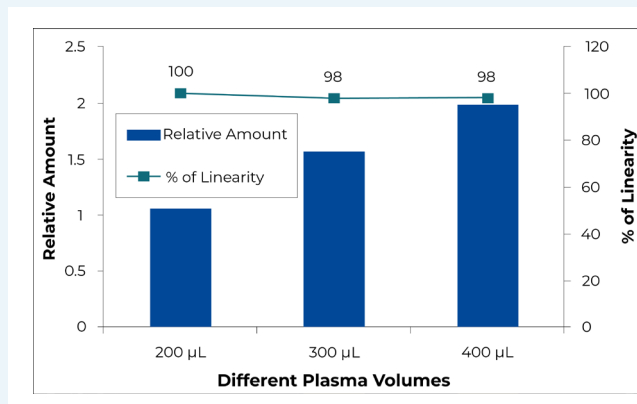


ROBUST PLASMA VOLUMES

Figure 1. Norgens Plasma/Serum Cell-Free Circulating DNA Purification Micro Kit was used to purify circulating DNA from 50 µL, 100 µL and 200 µL plasma prepared from blood collected on citrate as an anticoagulant, and compared to Competitor Q's kit. Two microlitres of the purified DNA was then used as the template in qPCR reactions to assess the relative amount of the purified housekeeping 5S rRNA gene. The relative amount of the 5S rRNA gene increases linearly with increasing the sample input volume. Norgen's kit showed the most consistent and the highest recovery of the housekeeping 5S rRNA gene as compared to the other isolation method.

EXCELLENT LINEARITY

Figure 2. Norgens Plasma/Serum Cell-Free Circulating DNA Purification Micro Kit as used to purify circulating DNA from 50 µL, 100 µL and 200 µL plasma prepared from blood collected on citrate as an anticoagulant. Two microlitres of the purified DNA was then used as the template in qPCR reactions to assess the linearity of the purified housekeeping 5S rRNA gene from the different plasma volumes. Norgens Plasma/Serum Cell-Free Circulating DNA Purification Micro Kit was able to recover 96% of the 5S rRNA gene from 100 µL plasma relative to the amount that is present in 50 µL plasma. Moreover, 97% of the 5S rRNA gene was recovered from 200 µL plasma relative to the amount that is present in 100 µL plasma.



INHIBITOR-FREE DNA

Figure 3. DNA was isolated from 50 µL, 100 µL and 200 µL plasma using Norgens Plasma/Serum Cell-Free Circulating DNA Purification Micro Kit.

Increasing volumes of the elution (2, 4 and 8 L) were used in a 20 L qPCR reaction to observe any decrease in Ct value. An increase in Ct values with increasing amount of template would be a clear indication of PCR inhibitors present in the sample. An increase in elution volume used as a template in the qPCR did not affect the Ct value generated from qPCR and in fact the Ct values tend to decrease with increasing the PCR input volume indicating that DNA purified from plasma using Norgen's kit is free of the common inhibitors usually present in plasma.

Extracted DNA is Optimal for a Variety of Downstream Applications

✓ Methylation Epigenetics

✓ Microarrays

✓ Fetal DNA Screening

✓ NGS

✓ Genotyping

✓ Biomarker Discovery

KIT SPECIFICATIONS





Specification	Micro Kit (55500)	Mini Kit (55100)	Midi Kit (55600)	Maxi Kit (55800)
Minimum Plasma/Serum Input	10 µL	200 µL	1 mL	5 mL
Maximum Plasma/Serum Input	200 µL	500 µL	4 mL	10 mL
Size of DNA Purified	≥ 50 bp	≥ 50 bp	≥ 50 bp	All sizes
Elution Volume	25-50 µL	25-50 µL	25-50 µL	25-50 µL
Time to Complete 10 Purifications	15-20 minutes	15-20 minutes	90 minutes	90 minutes
Average Yields*	Variable	Variable	Variable	Variable

*Please check page 7 in the product manual for the Plasma/Serum Average Yields and the Common DNA Quantification Methods. View product manual on norgenbiotech.com.

SELECT PUBLICATIONS

Publication Title	Authors	Journal	Year
Qualification and quantification of plasma cell-free DNA after long-term storage conditions in patients with benign prostatic hyperplasia (BPH): a pilot study	Bozkurt, A., Gürbüz, M., Sayar, I., Baydeniz, S., & Arslan, Y. K. (2022).	Journal of Laboratory Medicine, 46(6), 383–389.	2022
Peptide-Affinity Isolation of Extracellular Vesicles and Cell-Free DNA From Human Plasma	Roy, J. W., Taylor, C. A., Ouellette, R. J., & Lewis, S. M. (2022)	S. L. Christian (Ed.), Cancer Cell Biology: Methods and Protocols (pp. 341–352). Springer US.	2022
Significance of Circulating Cell-Free DNA Species in Non-Alcoholic Fatty Liver Disease	Chrysavgis, L., Papatheodoridi, A., Cholongitas, E., Koutsilieris, M., Papatheodoridis, G., & Chatzigeorgiou, A. (2021).	International Journal of Molecular Sciences, 22(16), Article 16.	2021
Comparison of five cell-free DNA isolation methods to detect the EGFR T790M mutation in plasma samples of patients with lung cancer	Solassol, J., Quantin, X., Larrieux, M., Senal, R., Audran, P., Grand, D., Mangé, A., Diamandis, E. P., & Vendrell, J. A. (2018).	Clinical Chemistry and Laboratory Medicine (CCLM), 56(9), e243–e246	2018
Comprehensive evaluation of methods to isolate, quantify, and characterize circulating cell-free DNA from small volumes of plasma	Mauger, F., Dulary, C., Daviaud, C., Deleuze, J.-F., & Tost, J. (2015).	Analytical and Bioanalytical Chemistry, 407(22), 6873–6878.	2015

Ordering Information

Description	Prep	Cat. #
Plasma/Serum Cell-Free Circulating DNA Purification Micro Kit	50 preps	55500
Plasma/Serum Cell-Free Circulating DNA Purification Micro Kit Dx 	50 preps	Dx55500
Plasma/Serum Cell-Free Circulating DNA Purification Mini Kit	50 preps	55100
Plasma/Serum Cell-Free Circulating DNA Purification Mini Kit Dx 	50 preps	Dx55100
Plasma/Serum Cell-Free Circulating DNA Purification Midi Kit	20 preps	55600
Plasma/Serum Cell-Free Circulating DNA Purification Midi Kit Dx 	20 preps	Dx55600
Plasma/Serum Cell-Free Circulating DNA Purification Maxi Kit	10 preps	55800
Plasma/Serum Cell-Free Circulating DNA Purification Maxi Kit Dx 	10 preps	Dx55800

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EXTRACTION



APPLICATION

Related Products	Prep Size	Cat. #
cf-DNA/cf-RNA Preservative Tubes	50 tubes	63950
cf-DNA/cf-RNA Preservative Tubes Dx	50 Tubes	Dx63950
Norgen Next Generation Sequencing Services	Call 1-866-NORGENB or Visit norgenbiotech.com	



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