

GenSolve Complete™ DNA Extraction and Purification Kit for Dried Blood Spots

UNMATCHED convenience with UNSURPASSED performance.



GenSolve Complete™ for DBS

GenSolve Complete is a convenient, robust kit for extracting and purifying high quality, high quantity dsDNA from DBS. Superior results are obtained for blood spotted on GenPlates®, GenSaver™ cards, FTA® paper, GenCollect™ cards, Guthrie cards and all other filter papers. Generic methods of extracting DNA from the cellulose matrix include alkaline conditions, and high heat, both of which result in the recovery of single-stranded DNA; restriction digest or organic extractions yield dsDNA but are labor intensive. GenSolve extraction is both effective and mild and delivers high quality double stranded DNA.

GenSolve Complete Benefits

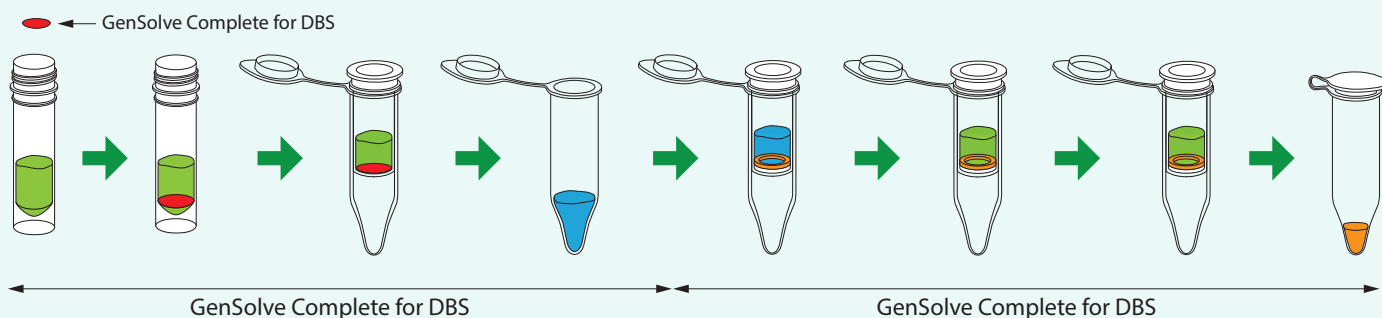
- Convenient single kit for extraction and purification
- High yields of high quality dsDNA
- >35 Kb molecular weight DNA
- Fast, start to finish in about 90 minutes
- Any batch size from 1 to 100 DBS sample

More and Better DNA

GenSaver cards and FTA paper are a fast, economical and easy way to collect DNA from a variety of biological samples. Blood, buccal cells, plants, bacteria and many other sample types are applied to these papers where the cells are lysed and DNA is captured in the cellulose matrix. After drying, the samples are stable and ready for storage or shipping. GenSolve recovers high quality double stranded DNA from all papers, and the process is fast and easy. Downstream interference by the FTA chemicals is eliminated as they are removed when using GenSolve. GenSolve also delivers the highest yields of dsDNA when compared to generic extraction protocols.

Fast Simple Extraction & high yield purification

The GenSolve Complete procedure consists of incubating 6 mm paper discs at 56°C with a proteinase combined with a proprietary high pH solution and detergent. The incubation releases DNA, proteins and cellular debris from the matrix in a highly efficient manner. After centrifugation the eluate is purified by a standard bind-wash elute column method for DNA isolation and concentration. The entire process from punch to purified double stranded DNA takes a little over 90 minutes. GenSolve Complete routinely provides equal or better yields of high quality DNA than earlier published best results.



GenSolve Complete Performance

Yield of DNA

GenSolve Complete recovers a significant amount of the DNA trapped within the matrix when whole blood is spotted on paper. Yields are between 50 – 360 ng from 10 μ L of whole blood. In our experience, yields of DNA are routinely higher when GenSaver cards are being used rather than FTA paper. Yield varies depending on the initial sample and the normal variability between donors.

Reproducibility

GenSolve extraction is reproducible with an average CV of 11%, over 90 FTA discs containing 10 μ L of whole blood from 30 unique samples.

Quality DNA

dsDNA recovered from paper via the GenSolve extraction method is intact and approximately 35 kb in length.

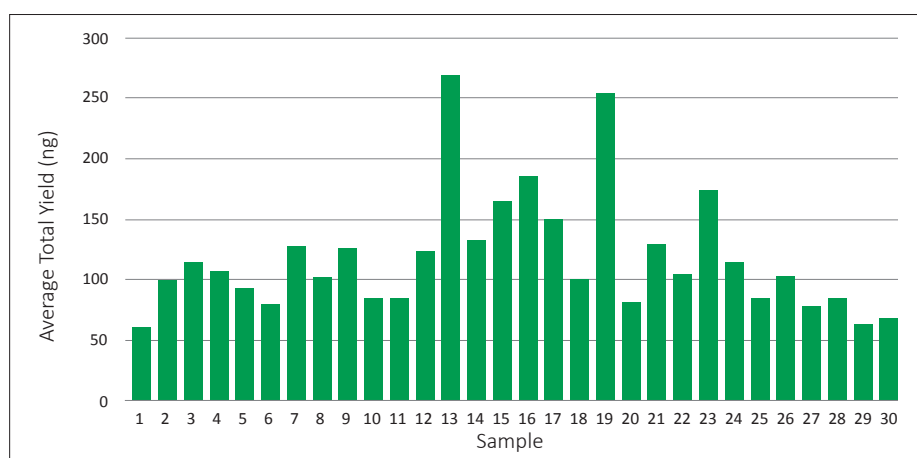
Suitability of GenSolve recovered DNA

DNA recovered is suitable for use in all standard methods.

- Serves as template for all PCR, QPCR, STR, etc.
- Can be used in TagMan allelic discrimination SNP Genotyping assays
- Gives 100% concordance for GeneChip Human mapping 10 k array
- Can be used on BeadLab platform using the GoldenGate Array



Yield of DNA recovered from 30 unique samples of FTA cards. The average DNA recovered was 132 ng per 6 mm disc. The yield ranged between 75 and 280 ng. DsDNA was quantitated by PicoGreen. Purified yield will match extracted amounts of DNA.



Product Specification	Description
Contents	Configured to treat batches of: 1 to 50 or 1 to 100
Storage	Proteinase solution is stored at 4°C; all other components store at ambient
Typical results of dsDNA* purified from 10 μ L of blood spotted on FTA Cards.	
Yield	132 ng, average per 6 mm disc of blood on FTA paper)
Range	50-360 ng per 6 mm disc
Overall CV	<20%
Concentration	0.5 to 2 ng/ μ L
Size	35 kb, size of the majority of fragments
PCR	Successful amplification
Shelf life	
Proteinase	6-months @ 4°C

*DNA quantities by PicoGreen (Invitrogen)