

# AutoGen FLEX STAR Application Guide

## 1-2 ml Whole Blood



I. **Purpose:** To extract genomic DNA from 0.5 - 2.0 ml of EDTA, or citrate treated fresh or frozen whole blood.

II. **Chemical Principal:** QIAGEN's FlexiGene Procedure (protease digestion/DNA precipitation method)

### III. Protocol Parameters:

A. **Sample Volume:** 0.5 - 2.0 ml of EDTA or citrate treated whole blood.

B. **Number of Samples:** Up to 30 samples per run.

C. **Throughput:** Up to 90 x 1-2 ml samples per day.

D. **Yield:** 12-36 µg of purified DNA per 1.0 ml of whole blood

E. **Quality:** Typical OD260/280 values are 1.70 – 1.90. The DNA is free of contaminants and inhibitors (RNA, protein) and can be used directly in downstream processes such as DNA sequencing, PCR-based assays, restriction digestions, and Southern blotting.

### IV. Running the Protocol:

A. **Load Reagents and Samples**

B. **Select the 1-2 ml Fresh/Frozen Protocol**

C. **Enter Number of Samples**

D. **Start the Run**

### V. Example of genomic DNA obtained from whole blood:

Agarose Gel Electrophoresis:

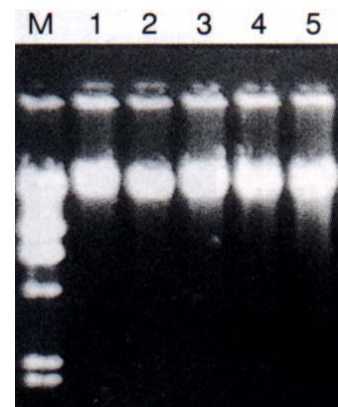
Sample: 3µl out of 250µl resuspended DNA

Gel: 0.5% TAE Gel

Condition: 80V x 2 hours

Lane M: High Molecular Weight DNA Marker (48.5 kb)

Lanes 1-5: DNA from 1ml whole blood.



## VI. Extraction and Purification Process

Process Site	Purpose	System Process
1. Automated	Obtain nuclei pellet (includes mitochondria)	Add Buffer FG1*, centrifuge and discard supernatant.
2. Automated	Wash nuclei pellet	Add Buffer FG3*, centrifuge and discard supernatant. Repeat.
3. Automated	Digest/lyse nuclei	Add QIAGEN Protease and Buffer FG2*. Mix, incubate and mix again.
4. Automated	Precipitate DNA	Add R4** or Isopropanol to DNA recovery tube. Transfer supernatant of sample tube into DNA recovery tube, mix, centrifuge and discard the supernatant.
5. Automated	Wash DNA	Add R5** or 70% Ethanol, mix, centrifuge and discard the supernatant.
6. Automated	Resuspend DNA***	Add reagent FG3*, mix, incubate, mix and centrifuge.

\* Buffers FG1, FG2 FG3 and QIAGEN Protease are available from AutoGen as FLEX STAR FlexiGene Reagent Kit (640) Catalog #AGKT-FG-640.

\*\* Reagents R4 and R5 are available from AutoGen, Inc. as AutoGen FLEX STAR Blood DNA Finishing Kit, Catalog #AGFXPW.

\*\*\* Samples can be vortexed after initial incubation if required.

### AutoGen

84 October Hill Road, Holliston, MA 01746

Tel: 508-429-5965 | Fax: 508-429-9765

E-mail: [info@autogen.com](mailto:info@autogen.com)

