AURORA NUCLEIC ACID EXTRACTION SYSTEM

Recover high purity nucleic acids from inhibited and low biomass environmental samples using Boreal's revolutionary Aurora instrument and eliminate issues of low yield, persistent PCR inhibition, or limitations in high molecular weight DNA recovery.

ELECTROPHORETIC PURIFICATION

Boreal Genomics presents the Aurora, a revolutionary new platform for nucleic acid purification. The Aurora incorporates our proprietary SCODA electrophoretic purification technology to simultaneously purify and concentrate nucleic acids.

SCODA purification operates on the unique physical properties of nucleic acids and is consequently able to efficiently remove contaminants that co-extract in conventional solid-phase purification kits.

LOW BIOMASS AND HEAVILY INHIBITED SAMPLES

The Aurora enables you to extract nucleic acids from up to 5 mL of dilute lysate or eluates, achieving exceptional recovery of trace nucleic acids from low biomass samples including sediments, soils, tundra, and water samples. The Aurora also allows clean-up of contaminated eluates from commercial kits, rescuing previously unusable samples, and integrating seamlessly into existing workflows.

HIGH MOLECULAR WEIGHT DNA FROM 100kb - 1Mb

The Aurora concentrates and purifies nucleic acids in a non-mechanical process enabling recovery of intact DNA over 1 Mb directly from environmental samples, cell extracts, or agarose including PFGE plugs. Extracted DNA can be provided either in buffer or gel plug for subsequent cloning, archiving, optical mapping or other genetic analysis including PCR and sequencing.

NEW REUSABLE CARTRIDGES

Choose between convenient disposable cartridges or reusable agarose gel cartridges that minimize per-sample purification costs.

For pricing, availability, and other inquiries contact sales@borealgenomics.com or 800.681.5644.

FIGURE 1: Aurora instrument with cartridge

AURORA HIGHLIGHTS

- Unparalleled nucleic acid purity
- Exceptional yield from low biomass samples
- Recover high molecular weight DNA from 50 kb to over 1 Mb into buffer or gel plug
- Typical run times of 2 - 4 hours, depending on amount of purification required
- Minimal sample handling simplifies your existing workflow – load sample and go
- Disposable or reusable cartridges with 5 mL sample input and 60 uL output

AURORA SYSTEM SPECIFICATIONS

The complete Aurora system comprises the instrument, an external chiller, and laptop all provided by Boreal Genomics.

Instrument		
Weight	64 lbs	29 kg
Dimensions	20" H x 11" W x 15" D	50 cm x 28 cm x 38 cm
Power Requirement	120-240 VAC, 700 W, 50-60 Hz	
Chiller		
Weight	28 lbs	12.7 kg
Dimensions	13" H x 11" W x 13" D	33 cm x 28 cm x 33 cm
Power Requirement	120-240 VAC, 700 W, 50-60 Hz	
Laptop		
Weight	3.3 lbs	1.5 kg
Dimensions	10" H x 12" W x 10" D	25 cm x 30 cm x 25 cm
Power Requirement	120-240 VAC, 180 W, 50-60 Hz	

Cartridge Specifications	**1 Sample**
Dimensions	Microtiter plate footprint
Input Volume	5 mL
Maximum Sample Salinity	<200 uS/cm
DNA/RNA Capacity	40 ug
Output Volume	60 uL
Buffer	0.25x TBE (400 uS/cm), pH 6-8
Performance	
Run Time	2 - 4 hours with sample salinity <100 uS/cm, 0.25x TBE buffer
Manual Interventions	None
Yield	>60% of available nucleic acids within size range
DNA/RNA Fragment Size	>500 nt RNA, 300 bp – 50 kb DNA, extendable up to 1Mb[1]
Contaminant Rejection	10-50,000X[2]

[1] High Molecular Weight DNA above 50 kb can be recovered with longer run times, up to 48 hrs for 1 Mb DNA.

[2] Contaminant rejection is specified as fold-increase in the ratio of DNA to contaminant concentration. Data quoted is measured with respect to humic acids and range corresponds to run time.

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