

HDA-GT12 System for RNA Analysis

Introduction:

Determining the quality and quantity of RNA is an essential step for any gene expression analysis. A traditional method for RNA quantitation was to use optical density absorbance. This is very time consuming and less accurate. Ethidium bromide staining to measure the ratio of two ribosomal RNA bands has been used as guideline for RNA quality determination.

BioCal provides a cost-effective multi-channel capillary electrophoresis system for RNA quality and quantity determination. This bench-type HDA GT-12 system uses a fluorescence mechanism for nucleic acid detection. A consumable multi-channel capillary gel cartridge engaged to the system can automatically inject and analyze 12 strip samples simultaneously for 430 seconds or 96 samples for about 1 hour. This affordable system can be easily operated in research laboratories for different sources of RNA analysis.

Methods:

Hela cells total RNA was diluted and denatured using sigma loading buffer (R-4268) at 70°C for 10 minutes. The sample solution was injected and analyzed in HDA-GT-12 system.

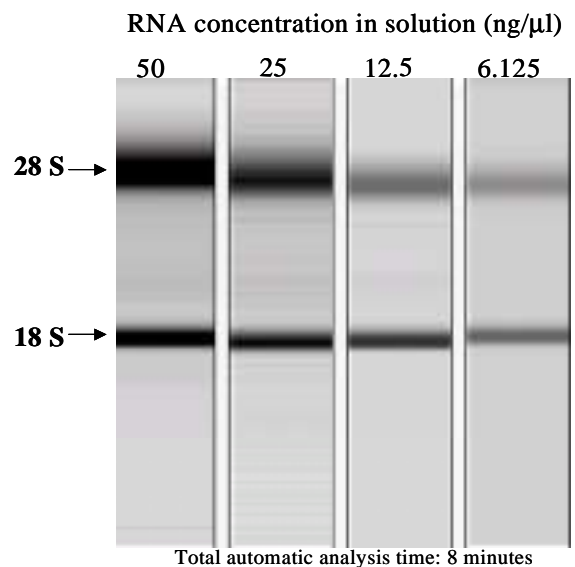
Operation Procedure:

1. Insert BioCal's gel cartridge into the system. (Cartridge capacity: 1200 samples) (45 seconds)
2. Place RNA sample solution (20 μ l) in 0.2 ml tube strips (or plates) into the sample tray (60 seconds).

3. Select a method from BioCalculator software and click "run" button to run samples (45 seconds).
4. Separation and RNA Detection (400 seconds at 6 kV).

Results:

A 28S and 18S ribosomal RNA bands from series dilution was detected and the ratio of the two bands are:



HDA-GT12 System Features:

- Automated Process: No need for manual sample loading.
- Replaceable Gel Cartridge: No need for gel preparation.
- 10-minute electrophoresis time.
- Detection : 1 ng/ μ l RNA concentration in the solution.
- 96-Sample Capacity
- Data View: In electropherogram or gel-view format.
- Software: Digital data for analyses.
- Compact Design: Fits on any lab bench.
- Competitive system cost and economical consumables.
- HDA-GT12 system is for research use only.