EFFECTS OF DIFFERENT DNA SEQUENCING METHODS
EVALUATED USING A WEB BASED QUALITY CONTROL RESOURCE:
THE ABRF DNA SEQUENCE RESEARCH GROUP 2001 STANDARD TEMPLATE STUDY


ABSTRACT

The goal of this study was to analyze the effect of different DNA sequencing methods on the quality of resulting data. A wide variety of sequencing groups submitted data for pGEM, a standard quality control sequencing template. Sequence data was collected by FTP or HTTP and details of sequencing conditions were collected by web forms. The effect of factors such as different types of instrumentation and chemistries were examined. The current data were compared to data from our prior studies. Results of using common and new technologies were analyzed. In particular, results from capillary array sequencers such as the ABI 3700 were evaluated. A major aim of this study was to update and share the utility of our "Next Ending Story" (NESS) database, a web-based resource of sequencing data that we established in 1998 and made publicly available in a new easy-to-use format in 2003. The results of this study may be used for quality control, trouble shooting, and evaluation of new technologies.

RESULTS

Submissions

Accuracy and Quality of Different Machine Types

Dye Chemistry Comparison

Analysis of Standard Template

Throughput of Different Machine Types

CONCLUSIONS

Efforts of Dilution and Run Vol.

Effects of PCR Success

Ranking by Accuracy