

TargetSeq™ Resequencing System for Applied Biosystems 3730 and 3730x/ DNA Analyzers

- Software module to sequence small exons and short DNA fragments in less than 20 minutes per run**
- Analyze up to 6,912 samples in 24 hours (72 runs)***
- Flexibility to run both long and short fragments on your existing 3730/3730x/ system**

Introduction

A growing number of sequencing laboratories are expanding beyond *de novo* sequencing projects to more resequencing and medical sequencing of small exons and short DNA fragments. The TargetSeq™ Resequencing System is a 3730-series software module designed for high-throughput resequencing of relatively short fragments. The TargetSeq System enables a 3730x/ instrument, for example, with a 36-cm, 96-capillary array to produce 400 QV20 bases at a run-to-run time of 20 min or less, expanding the daily production capacity of the 3730x/ system to greater than 2800 QV20 Kbases or 6912 samples (72 runs).

Key Features and Benefits

The TargetSeq System uses existing hardware, software and reagent components on your 3730 series instrument.



The key features of the TargetSeq system include:

- High-speed run module**
- KB™ Basecaller Software v1.3**
- New pre-batch file**

High-speed Run Module

The high-speed run module of the TargetSeq system produces 400 QV20 bases in about 20 minutes at the default setting. Depending on your specific requirement, the run module can be customized to process read lengths between 200 to 400 QV20 bases by adjusting the Run_time setting. Note: For runs of >500 bases, use of the RapidSeq run module is advised.

The introduction of Applied Biosystem's TargetSeq™ Resequencing System into our lab has had a significant impact by dramatically increasing our throughput on re-sequencing projects, such as those focused on melanoma and prostate cancer. We can now tailor our sequence runs to individual projects, and not just have a "one size fits all" approach to sequence analysis. Best of all, TargetSeq™ has shown the same basecalling accuracy and ease-of-use as other Applied Biosystems packages.

— Steve Mastrian, Assistant Director, DNA Sequencing, Translational Genomics Research Institute (TGen)

*400 base pair reads on the 3730x/

KB™ Basecaller v1.3

This new version of the Applied Biosystems KB Basecaller provides greater flexibility and reduces susceptibility to basecalling errors when modifying module electrophoresis voltage parameters. It also offers improved detection of heterozygotes and mixed bases.

New Pre-batch File

Designed specifically for the TargetSeq system, the new pre-batch file allows the oven of the 3730 system to remain heated throughout the pre-run process. Note that if you are running non-TargetSeq modules

after your TargetSeq runs, you will need to downgrade the pre-batch file per procedure described in the User Bulletin.

System Components

Installing and using the TargetSeq system is simple and streamlined. The TargetSeq system uses existing hardware, software, and reagents, including BigDye® Terminator v3.1, the 3730/3730xl instruments (36-cm arrays only), Data Collection Software v3.0, and the POP-7™ Polymer. Note that TargetSeq is not supported with BigDye® Terminator v1.1 and the 50-cm arrays.

Software Requirements

To use TargetSeq software, the following software packages must also be running concurrently on the 3730 or 3730xl instrument: Data Collection Software v3.0, Sequencing Analysis Software v5.2, or SeqScape® Software v2.5.

Ordering Information

Please contact your local Applied Biosystems sales representative for P/N and ordering information.

Run Module	Array Length	Run Time, min	KB™ Basecaller QV20 LOR (Bases)	Runs/Day	3730xl		3730	
					Samples/ Day	KB Basecaller QV20 Bases/Day	Samples/ Day	KB Basecaller QV20 Bases/Day
Extra Long Read Sequencing	50	180	900	8	768	691,200	384	345,600
Long Read Sequencing	50	120	850	12	1,152	979,200	576	489,600
Fast Sequencing	50	60	700	24	2,304	1,612,800	1,152	806,400
Standard Sequencing	36	60	700	24	2,304	1,612,800	1,152	806,400
Rapid Sequencing	36	35	550	40	3,840	2,112,000	1,920	1,056,000
TargetSeq™ Resequencing System	36	20	400*	72	6,912	2,880,000	3,456	1,440,000

Table 1. Run module details

*Throughput numbers shown for 400bp reads (Long read standards—HSP69 template). Module can be customized to run 200-400 bases.

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Headquarters

850 Lincoln Centre Drive | Foster City, CA 94404 USA
Phone 650.638.5800 | Toll Free 800.345.5224
www.appliedbiosystems.com

International Sales

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