

A large, vertical, metallic DNA double helix structure that runs down the left side of the page, starting from the top and ending at the bottom.

## *Site Preparation Guide*

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### **Axiom™ Genotyping Assay**

For Axiom™ Genome-Wide and  
Custom myDesign™ Array Plates

**For research use only.  
Not for use in diagnostic procedures.**

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# Contents

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Chapter 1	<b>Equipment and Supplies Common to Automated and Manual Target Prep Workflows</b> . . . . .	<b>3</b>
	Affymetrix Equipment, Software, Reagents and Arrays Required . . . . .	3
	Other Equipment, Consumables and Reagents Required . . . . .	5
Chapter 2	<b>Genotyping Assay Equipment and Supplies Required for Automated Target Prep</b> . . . . .	<b>9</b>
	Beckman Coulter Equipment, Software, and Labware . . . . .	9
	Other Equipment, Consumables and Reagents Required . . . . .	21
Chapter 3	<b>Equipment and Supplies Required for Manual Target Prep</b> . . . . .	<b>23</b>
	Equipment Required for Manual Target Prep . . . . .	23
Appendix A	<b>Supplier Contact List</b> . . . . .	<b>27</b>

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## Equipment and Supplies Common to Automated and Manual Target Prep Workflows

This site preparation guide includes the supplier and part number information for the equipment, software, reagents, arrays, labware and other consumables that have been validated for use with the Affymetrix® Axiom™ Genotyping Assay.

Target preparation for the Assay can be performed using either of two methods:

- Automated Target Preparation with the Biomek® FX<sup>P</sup> Target Prep Express Workstation.
- Manual Target Preparation without automation equipment.

This chapter lists the equipment and supplies required by both workflows.

The equipment and supplies specific to the Automated workflow is listed in [Chapter 2, Genotyping Assay Equipment and Supplies Required for Automated Target Prep](#) on page 9.

The equipment and supplies specific to the Manual workflow are listed in [Chapter 3, Equipment and Supplies Required for Manual Target Prep](#) on page 23.

Information on suppliers of the equipment and supplies is listed in [Appendix A, Supplier Contact List](#) on page 27.

## Affymetrix Equipment, Software, Reagents and Arrays Required

**Table 1.1** Affymetrix equipment, software, reagents and arrays required

✓	Item	Part Number
<b>Equipment</b>		
□	GeneTitan® Multi-Channel Instrument	Contact Affymetrix, Inc.
<b>Software</b>		
□	GeneChip® Command Console (AGCC)	version 3.1 or later
□	Genotyping Console	version 4.0 or later
<b>Reagents</b>		
□	Axiom™ Reagent Kit	901281 (96 reactions)
<b>Arrays</b>		
Axiom™ Genotyping Solution Array Plates:		
□	Axiom Genome-Wide CEU 1 Array (Optimized for genomic coverage in Northern European, or CEU, populations)	901591 - one 96-array plate 901592 - two 96-array plates 901596 - eight 96-array plates
□	Axiom Genome-Wide ASI 1 Array (Optimized for genomic coverage in East Asian, or ASI, populations)	901634 - one 96-array ASI plate 901635 - two 96-array ASI plates 901636 - eight 96-array ASI plates
□	Axiom Genome-Wide BOS 1 Array	901741 - one 96-array BOS plate 901744 - two 96-array BOS plates 901746 - eight 96-array BOS plates
□	Axiom™ myDesign™ Genotyping Array Plates, 1x96 format *	P/N 000780 - one 96-array plate of one array type

**Table 1.1** Affymetrix equipment, software, reagents and arrays required (Continued)

✓	Item	Part Number
□	Axiom™ myDesign™ Genotyping Array Plates, 2x48 format *	P/N 000786 - one 96-array plate of two array types
□	Axiom™ myDesign™ Genotyping Array Plates, 4x24 format *	P/N 000787 - one 96-array plate of four array types
□	<p>Each Axiom Genome-Wide Array plate kit contains the following labware for each array plate:</p> <ul style="list-style-type: none"> <li>□ Axiom Genome-Wide Array plate(s)</li> <li>□ 1 Hyb Tray with bottom cover</li> <li>□ 1 Scan Tray with top and bottom covers</li> <li>□ 5 Stain Trays with top covers</li> </ul> <p>These trays are required for processing Axiom array plates on the GeneTitan® Multichannel Instrument.</p> <p>*The Consumables for the GeneTitan MC instrument are packaged separately from the Axiom myDesign™ Genotyping Array Plates. The consumables are available in the GeneTitan Consumable kit.</p>	901606
Training Module		
□	<p>Axiom™ Genotyping Assay Training Module</p> <p>Includes:</p> <ul style="list-style-type: none"> <li>■ Two Genome-Wide CEU 1 Array Plate Kits (96-array plates)</li> <li>■ Two Axiom™ Reagent Kits (96 reactions)</li> <li>■ One full plate of 96 HapMap DNA samples</li> <li>■ One half plate of 48 HapMap DNA samples</li> <li>■ One quarter plate of 24 HapMap DNA samples</li> <li>■ Beckman Cold Block Templates (tube block template) (not used in manual target prep workflow)</li> <li>■ Beckman Reservoir Labels (not used in manual workflow)</li> <li>■ One Zerostat Anti-Static Gun</li> </ul> <p>Note: The Cold Block and Reservoir labels are used only with the Automated workflow. See <a href="#">Tube Block Template on page 17</a> for more information</p>	901597

## Related Documentation

- *Affymetrix GeneTitan® MultiChannel Instrument User's Guide*, P/N 08-0306
- *Affymetrix GeneTitan® MultiChannel Instrument Site Preparation Guide*, P/N 08-0305
- *Affymetrix GeneChip® Command Console™ 3.1 User Manual*, P/N 702569
- *Affymetrix Axiom Genotyping Assay User Guide*, P/N 702830
- *Axiom gDNA Sample Prep QRC*, P/N 702928
- *GeneTitan MC Protocol for Axiom Array Plate Processing QRC*, P/N 702929
- *Axiom gDNA Sample Prep for Axiom Genome-Wide BOS 1 Array Plate QRC*, P/N 702975
- *Genotyping Console User Guide*
- *Axiom GW BOS 1 APT Vignettes*

## Other Equipment, Consumables and Reagents Required

### Gels and Related Materials Required

Table 1.2 E-Gel™ and reagents required

✓	Item	Supplier	Part Number
□	Mother E-Base™ Device		EB-M03
□	Daughter E-Base™ Device		EB-D03
□	E-Gel® 48 4% agarose gels (for Axiom QC)		G8008-04
□	TrackIt™ 25 bp DNA Ladder (for Axiom QC)	Life Technologies™ (formerly Invitrogen)	10488-022
□	TrackIt™ Cyan/Orange Loading Buffer (for Axiom QC)		10482-028
□	E-Gel® 48 1% agarose gels (for gDNA QC)		G8008-01
□	RediLoad™ (for gDNA QC)		750026
□	E-Gel® 96 High Range DNA Marker (for gDNA QC)		12352-019

### Oven Requirements

While the same oven models can be used for automated and manual target prep, the required quantities are different.

#### Oven Requirements for Automated Target Prep

We recommend using the ED 53 Binder oven listed in [Table 1.3](#). If another oven is used, it must be able to maintain a constant temperature of 30°C for at least 24 hr, and have a temperature accuracy of +/- 1°C.

Table 1.3 Ovens required for the Axiom Genotyping Assay Automated Target Prep

✓	Item	Supplier	Part Number
□	Oven: Required if processing more than 3 array plates per week.		
■	ED 53 drying oven by Binder	VWR	50/60 Hz, 115 V, 1200W VWR P/N 47746-744 Mfg P/N 9010-0131
			50/60 Hz, 230 V, 1200 W VWR P/N 47746-690 Mfg P/N 9010-0078
	Optional — for low throughput of 3 or fewer array plates per week:		
■	GeneChip® Hybridization Oven 645	Affymetrix	00-0331

#### Oven Requirements for Manual Target Prep

Multiple ovens are required for manual target preparation. The exact number depends upon whether you are running only a single sample plate and array plate through the workflow, or if you are trying to run the three plate/week manual target preparation workflow.

- If you are running individual plates, you will need two ovens for the workflow.
- If you are running the three plate /week workflow, you will need three or possibly four ovens, depending upon the models used.

See [Chapter 8, Processing Three Axiom Array Plates per Week with Manual Target Preparation](#) in the *Affymetrix Axiom Genotyping Assay User Guide* for more information.

**Table 1.4** Ovens required for Axiom™ Genotyping Assay with Manual Target Prep

✓	Equipment	Manufacturer/ Distributor	Part Number
□	Two to four ovens, any combination of the following types: <ul style="list-style-type: none"> <li>■ ED 53 drying oven by Binder</li> </ul>	VWR	50/60 Hz, 115 V, 1200W VWR P/N 47746-744 Mfg P/N 9010-0131
			50/60 Hz, 230 V, 1200 W VWR P/N 47746-690 Mfg P/N 9010-0078
	■ Affymetrix® GeneChip® Hyb Oven 645	Affymetrix	00-0331



**NOTE:** If you are using the Affymetrix® GeneChip® Hyb Oven 645, you will need four ovens to perform the three plate workflow.



## Plate Centrifuge

One plate centrifuge is required for the Axiom™ Genotyping Assay. We recommend the plate centrifuges listed in [Table 1.5](#). When centrifuging and drying pellets, the centrifuge must be able to spin down plates at:

- rpm: 4000
- ref: 3200
- temperature: 4°C

In addition, the bottom of the rotor buckets should be soft rubber to ensure that the deep well plates do not crack. Do not use buckets where the plates sit directly on a metal or hard plastic bottom.

**Table 1.5** Plate centrifuges recommended for the Axiom™ Genotyping Assay

✓	Item	Supplier	Part Number
□	One of the following centrifuges:		
■	Allegra® 25R Refrigerated Benchtop Centrifuge	Beckman Coulter	369434 (60 Hz, 280 V) 369435 (50/60 Hz, 200 V) 369436 (50 Hz, 230 V)  368954 S5700 Microplate rotor
■	Centrifuge 5810R with swing-bucket rotor	Eppendorf	5810R  A-4-81 rotor
■	Sorvall® Legend® XT (refrigerated), with:	Thermo Scientific	75004521 (60 Hz, 120 V) 75004520 (50 Hz, 230 V) 75004523 (50/60 Hz, 230 V USA and Canada)
□	TX-750 high visibility swinging rotor bucket		75003607
□	Carrier for microplates (including plate trays and neoprene pads)		One of either: ■ Set of two Carriers (75003795) ■ Set of four carriers (75003617)

## Spectrophotometer

We recommend using one of the spectrophotometers listed in [Table 1.6](#).

**Table 1.6** Spectrophotometers

✓	Item	Supplier	Part Number
□	One of the following spectrophotometers:		
■	DTX 880 Multimode Detector, with:	Beckman Coulter	987921 – detector
□	Genomic Filter Slide	Beckman Coulter	A30184 – filter slide
	or		
■	SpectraMax High throughput Microplate Spectrophotometer	Molecular Devices	Plus384

## Other Common Lab Equipment Required

The remaining equipment required is listed in [Table 1.7](#).

**Table 1.7** Other Equipment Required

✓	Item	Supplier	Part Number
☐	Freezer, -20°C	Any vendor	—
☐	Refrigerator, 2 to 8 °C	Any vendor	—
☐	Vortex-Genie® (for plates and microtubes)*	Scientific Industries	SI-0236 (120 V/60 Hz) SI-0246 (230 V/50 Hz)
☐	Mini Microcentrifuge, for 2 mL tubes*	VWR	93000-196 (120V) 93000-196 (230V)
☐	Bel-Art Cryo-Safe Mini Cooler, -15 °C *	VWR	47751-730
☐	Ice bucket, 4 to 9 liters	Any vendor	—
* Equivalent items from other manufacturers are acceptable			

## Other Reagents Required

**Table 1.8** Reagents Required from Other Suppliers

✓	Item	Supplier	Part Number
☐	2-Propanol, anhydrous, 99.5% (Isopropanol)	Sigma-Aldrich	278475
☐	Reduced EDTA TE Buffer (10 mM Tris-HCl pH 8.0, 0.1 mM EDTA)	Affymetrix	75793
☐	Water, nuclease-free, ultrapure MB grade (only required for performing rehybridization protocols and gel QC)	Affymetrix	71786

## Other Consumables Required

**Table 1.9** Consumables Required

✓	Item	Supplier	Part Number
☐	Adhesive film for 96-well plates – use one of the following:		
	▪ MicroAmp® Clear Adhesive Film	Applied Biosystems	4306311
	▪ Microseal 'B' Film	Bio-Rad	MSB1001
☐	Kimwipes®	Your choice	—
☐	Markers, permanent, fine point	Your choice	—

## Genotyping Assay Equipment and Supplies Required for Automated Target Prep

### Beckman Coulter Equipment, Software, and Labware

#### Equipment

The Biomek® FX<sup>P</sup> Target Prep Express (P/N A83103) is required to run the Axiom™ Genotyping Assay with the automated target preparation. This workstation includes the accessories, software and deck configuration listed in [Table 2.10](#). For information on upgrading a Biomek liquid handler already at your site, contact Beckman Coulter. In addition to this workstation, the components listed in [Table 2.11 on page 10](#) are also required.

**Table 2.10** Biomek FX<sup>P</sup> Target Prep Express required for running the Axiom™ Genotyping Assay

✓	Biomek FX <sup>P</sup> Target Prep Express	Quantity	Beckman Coulter Part Number
□	<b>Biomek FX<sup>P</sup> Target Prep Express</b> The part number for this workstation includes the components listed below.	<b>1</b>	<b>A83103</b>
	■ Biomek FX <sup>P</sup> Dual Multichannel Span-8	1	A31844
	■ Automation Controller XP, Biomek system software and monitor	1	A16170
	■ Packaged Tip Loader	1	719356
	■ Span-8 Disposal ALP	1	719590
	■ Disposable Tip Hardware Kit - 8 pk	1	A39380
	■ BFX 96-channel Disp, Tip Head, 200U	1	719368
	■ Pkg Static ALP Platform	4	719357
	■ 4 X 3 ALP Kit	1	719948
	■ Adaptor, Deep Well Plate	1	A83050
	■ Tube Block	1	A83054
	<b>Integrated Solutions Components Ref Quote 14202A</b>	1	
	■ Integrated Solution – Class 5 Peltier ALP Biomek FX <sup>P</sup> v3.3 Integration - 1 unit	1	969125
	■ Integrated Solution – Class 7 Peltier Shaking ALP FX <sup>P</sup> v3.3 Integration - 1 unit	1	969126
	■ Integrated Solution – Class 2 Special Lid Cover - 2 units	1	
	■ <b>Required:</b> Integrated Solution – Class 5 Biometra TRobot FX <sup>P</sup> v3.3 Integration - 1 unit	1	969125

**NOTE:** The thermal cycler for the robot must be purchased separately. Beckman Coulter will provide the services for integrating the thermal cycler on to the deck of the Biomek FX<sup>P</sup> Target Prep Express. The Warranty and service for the thermal cycler must be purchased separately from the manufacturer/distributor of the thermal cycler.

**Table 2.11** Additional components required to run the Axiom™ Genotyping Assay

✓	Item	Supplier	Part Number
☐	Frame for modular reagent reservoirs (listed below)	Beckman Coulter	372795
☐	Arched Auto-Sealing Lids With Wide Tabs	Bio-Rad	MSL-2032
☐	Microseal 'P' Replacement Pads	Bio-Rad	MSP-1003
☐	Tube Rack, 24-position, with 11 mm tube insert	Beckman Coulter	373661 (rack) 373696 (insert)

## Related Beckman Coulter Documentation

- *Biomek® Liquid Handler User's Manual*, Beckman Coulter P/N 987834
- *Biomek® FX Laboratory Automation Workstation Preinstallation Manual*, Beckman Coulter P/N 719450, rev AH
- *Biomek® Software User's Manual*, Beckman Coulter P/N 987835
- *Setup Guide & User's Manual Biometra TRobot on Biomek FX* Revision C, 05/24/2010

## Labware Required for the Biomek FX<sup>P</sup> Target Prep Express

The labware required to run the Axiom™ Genotyping Assay on the Biomek FX<sup>P</sup> Target Prep Express is listed in [Table 2.12](#). Photographs of the labware are provided in [Table 2.13 on page 11](#).

**NOTE:** The tips and universal labware for the Biomek FX<sup>P</sup> that is available from Beckman is also available as a single sales kit. The sales kit (P/N A87508) contains lab-ware sufficient for processing 10 array plates. The labware can be ordered as individual cases from the Beckman eStore.

**Table 2.12** Labware for the Biomek FX<sup>P</sup> Target Prep Express

✓	Item	Quantity Required 96-Array Plate Run	Supplier	Part Number
Pipette Tips, barrier, 96 tips/rack				
☐	Biomek Span P50, pre-sterile, barrier	96	Beckman Coulter	A21586
☐	Biomek AP96, P250, pre-sterile, barrier	384		717253
☐	Biomek Span P250, pre-sterile, barrier	67		379503
☐	Biomek Span P1000, pre-sterile, barrier, conductive	165		987925
Plates				
☐	Bio-Rad Hard Shell 96-well	10	Bio-Rad	HSP9631

**Table 2.12** Labware for the Biomek FX<sup>P</sup> Target Prep Express

✓	Item	Quantity Required 96-Array Plate Run	Supplier	Part Number
□	Beckman Deep Well Titer, polypropylene	2	Beckman Coulter	267007
□	ABgene® 96 Square Well Storage Plate Mark II, 2.2 mL	1	Thermo Scientific	AB-0932
□	Plate, OD for UV spec, 96-well	1	E & K Scientific	EK-25801
Reservoirs, modular for reagents				
□	Half module, 75 mL capacity	4	Beckman Coulter	372786
□	Quarter module, 40 mL capacity	11		372790
□	Quarter module, divided by width, 19 mL capacity	4		372792

### Photographs of the Labware Required

The photographs in [Table 2.13](#) are provided to help visualize the labware required on the Biomek FX<sup>P</sup> Target Prep Express to run the automated target preparation portion of the Axiom™ Genotyping Assay.

**Table 2.13** Labware used on the Biomek Workstation deck

Labware	Supplier and Part Number	Labware Image
<b>Biomek AP96 – P250 Pipette Tips</b> (aqua box; pre-sterile, barrier)	Beckman Coulter P/N 717253	
<b>Biomek Span P1000 Pipette Tips</b> (yellow box; pre-sterile, barrier, conductive)	Beckman Coulter P/N 987925	

Table 2.13 Labware used on the Biomek Workstation deck (Continued)

Labware	Supplier and Part Number	Labware Image
<p>Biomek Span P250 Pipette Tips (green box; pre-sterile, barrier)</p>	<p>Beckman Coulter P/N 379503</p>	
<p>Biomek Span P50 Pipette Tips (pink box; pre-sterile, barrier)</p>	<p>Beckman Coulter P/N A21586</p>	
<p><b>BIO-RAD Hard Shell 96-well plate</b> (available in multiple colors)</p>	<p>BIO-RAD P/N HSP9631</p>	
<p><b>Lid, metal</b> (arched, auto-sealing with P pads)</p>	<p>BIO-RAD P/N MSL-2032 and P Pad P/N: MSP-1003</p>	<p>Front view</p>  <p>Side view</p> 

Table 2.13 Labware used on the Biomek Workstation deck (Continued)

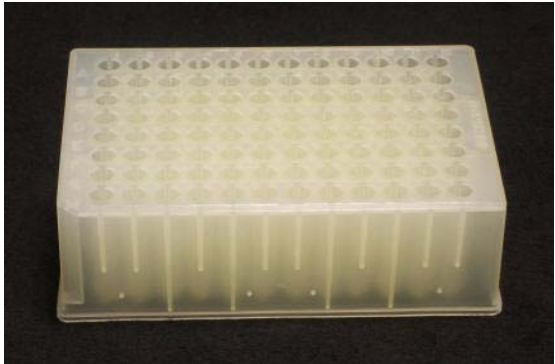

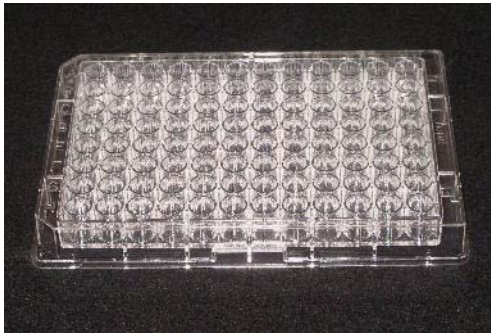
Labware	Supplier and Part Number	Labware Image
<b>Beckman Deep Well Titer Plate</b> (polypropylene)	Beckman Coulter P/N 267007	
<b>ABGene 96 Square Well Storage Plate</b> (2.2 mL)	Thermo Scientific P/N AB-0932	
<b>OD Plate, UV</b>	E & K Scientific EK-25801	

Table 2.13 Labware used on the Biomek Workstation deck (Continued)

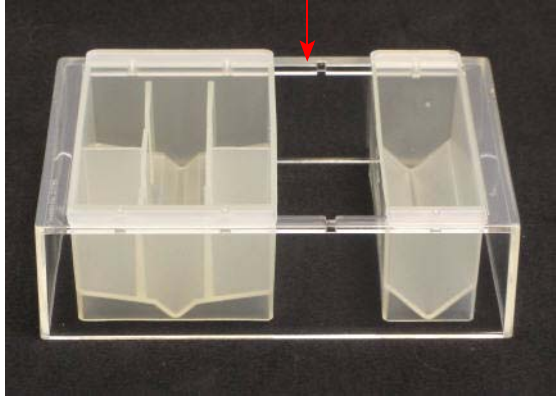
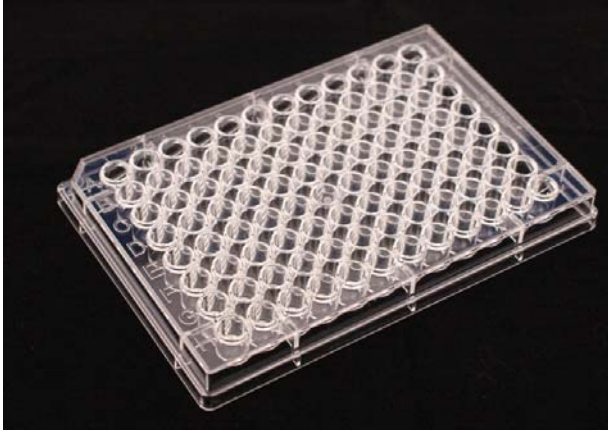

Labware	Supplier and Part Number	Labware Image
<p><b>Frame for Reservoirs</b></p>	<p>Beckman Coulter P/N 372795</p>	<p>Frame</p> 
<p>Plate, Costar Brand Serocluster round bottom plate from Corning</p> <p>□ Note: this consumable is required if using an off-deck ABI 9700 or ABI 2720 thermal cycle</p>	<p>VWR International P/N 29442-392</p> <p>E&amp;K Scientific EK 680568</p> <p>Corning Mfg PN 3795</p>	
<p>Hard-Shell Full-Height 96-Well Semi-Skirted PCR Plate required only if using off-deck ABI 2720 or ABI 9700 Thermal cyclers</p>	<p>Bio-Rad HSS-9601</p>	



Table 2.13 Labware used on the Biomek Workstation deck (Continued)



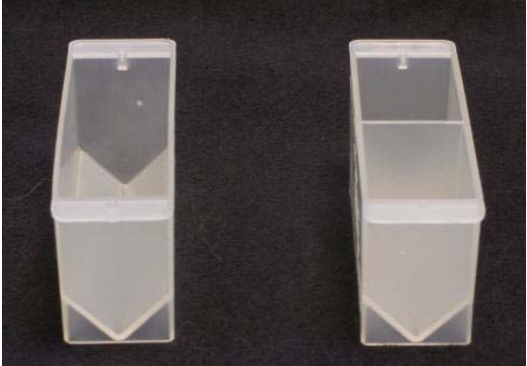
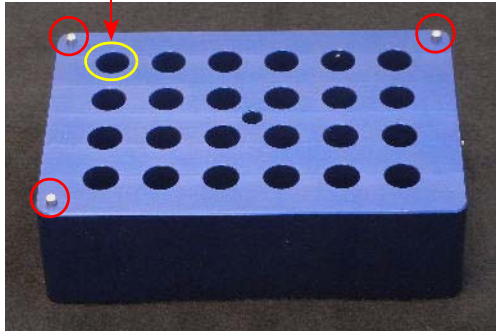

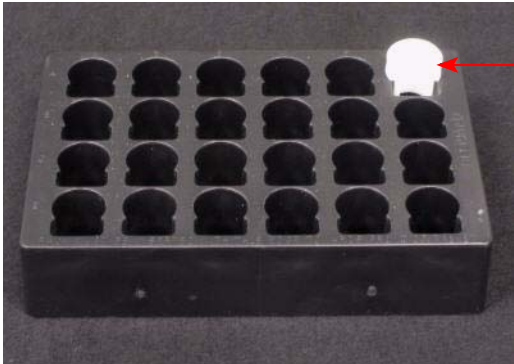
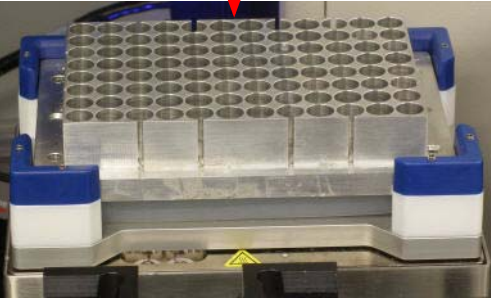
Labware	Supplier and Part Number	Labware Image	
<p>The ABI 9700 and the ABI 2720 use the semi-skirted 96-well plates (PN HSS-9601) stacked on a Costar brand Serocluster 96-well Round Bottom Microtitration plate as shown in the figure below</p> <p>A 96-well semi skirted PCR plate stacked on a Costar Branded Round Bottom 96 well plate.</p>			
<p><b>Half Reservoir</b> Half module, 75 mL capacity</p>	<p>Beckman Coulter P/N 372786</p>		
<p><b>Quarter Reservoirs</b></p> <ul style="list-style-type: none"> <li>■ Quarter module, 40 mL capacity</li> <li>■ Quarter module divided by width, 19 mL capacity each receptacle</li> </ul>	<p>Beckman Coulter P/N 372790 (40 mL) P/N 372792 (19 mL)</p>	<p>Undivided 40 mL capacity</p>	<p>Divided by width 19 mL capacity</p>
			

Table 2.13 Labware used on the Biomek Workstation deck (Continued)

Labware	Supplier and Part Number	Labware Image
<p>Reagent block, chilled to 4°C</p>	<p>Beckman Coulter P/N A83054</p>	<p><b>A1</b> Metal posts on block circled in red.</p> 
<p>Reagent block template  (designed specifically for use with the Axiom Genotyping Reagent Kit)</p>	<p>Contact Affymetrix</p>	<p>Template on reagent block. Metal posts on block circled in red.</p> 
<p>24-Position Tube Rack with one 11 mm tube insert in position A6.</p>	<p>Beckman Coulter P/N 373661 (rack) P/N 373696 (insert)</p>	 <p>Tube insert A6</p>

**Table 2.13** Labware used on the Biomek Workstation deck (Continued)

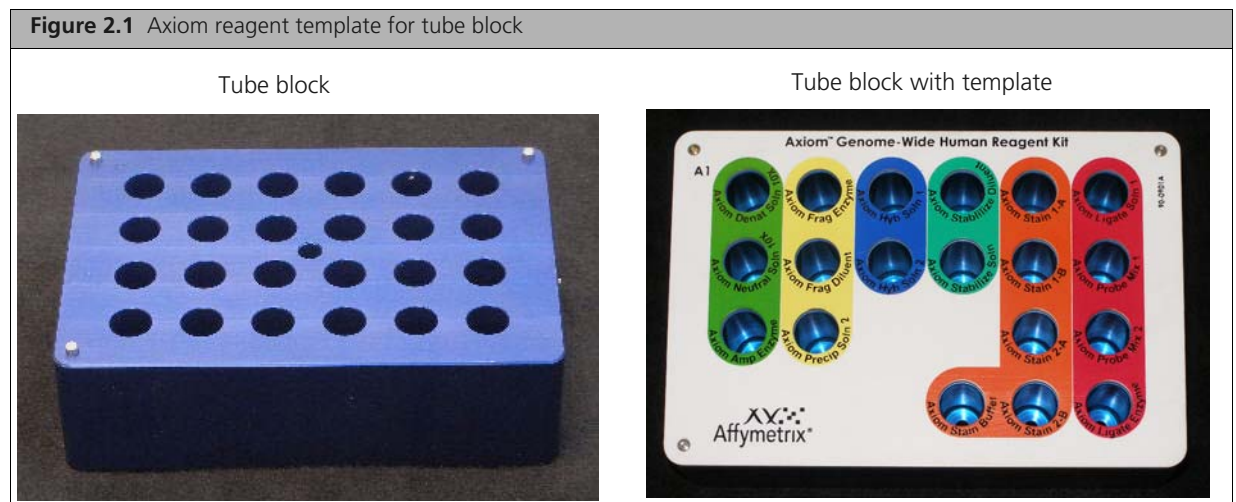
Labware	Supplier and Part Number	Labware Image
<p data-bbox="151 310 573 373">Adaptor, Deep Well Plate (installed on the Shaking Peltier)</p> <p data-bbox="151 457 573 625">This adaptor is typically installed by a Beckman Coulter field service technician during new system installation or a system upgrade. Ensure that you have one of these adaptors on the deck prior to running this assay.</p>	<p data-bbox="597 310 930 373">Beckman Coulter P/N A83050</p>	<p data-bbox="1011 321 1328 352">The metal block is the adaptor.</p> 

## Templates from the Training Kit

The Tube Block and Reservoir Frames templates are provided in the Training Module. These templates are only used with the Automatic Target Prep protocol.

### Tube Block Template

The Axiom Reagent Kit tube block template was designed to fit precisely onto the top of the Beckman Coulter Tube Block (P/N A83054). It is held in place by the metal posts on the block (Figure 2.1). Using this template will help ensure the proper placement of reagent tubes onto the block for each method.



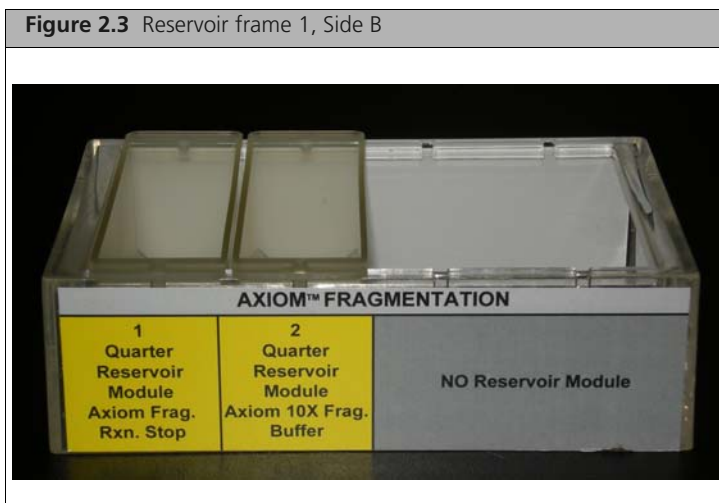
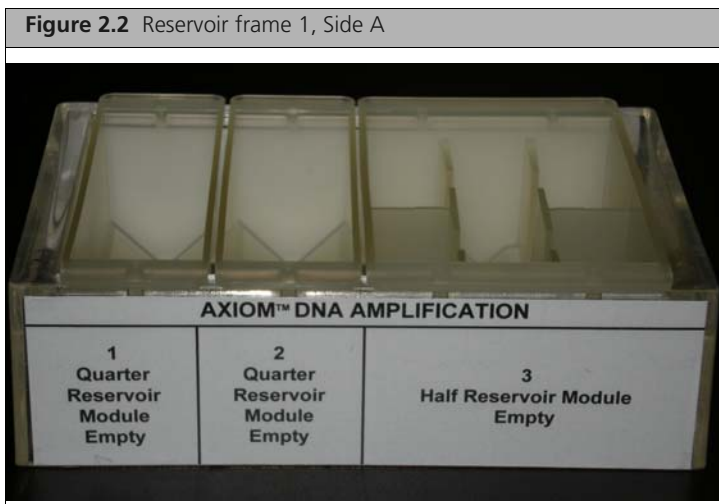
### Reservoir Labels

The Training Module provides stick-on labels for the modular reagent reservoir frames for the different stages of the Automated workflow. Using these labels will help ensure the proper placement of reservoirs and reagents for each method.

There are four reservoir holders used in the Axiom method. Three of these will have templates on two sides and the remaining reservoir holder will have a template on one side for a total of 7 templates.

Remove the protective surface from the back of the label and place as shown below:

### Reservoir frame 1



### Reservoir Frame 2

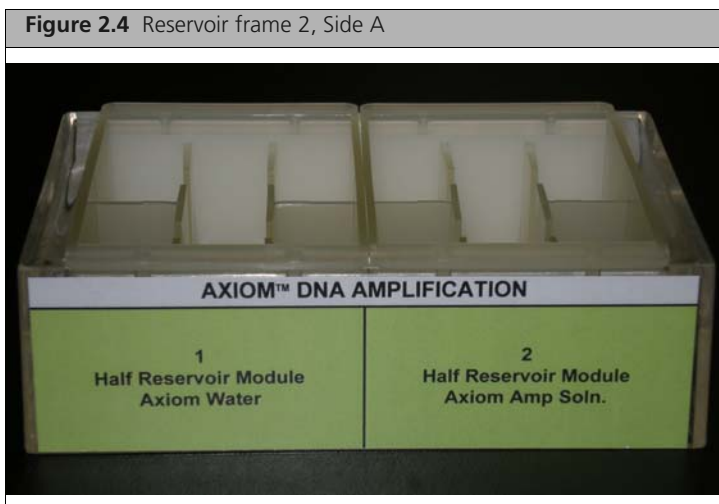


Figure 2.5 Reservoir frame 2, Side B



Reservoir frame 3

Figure 2.6 Reservoir frame 3, Side A

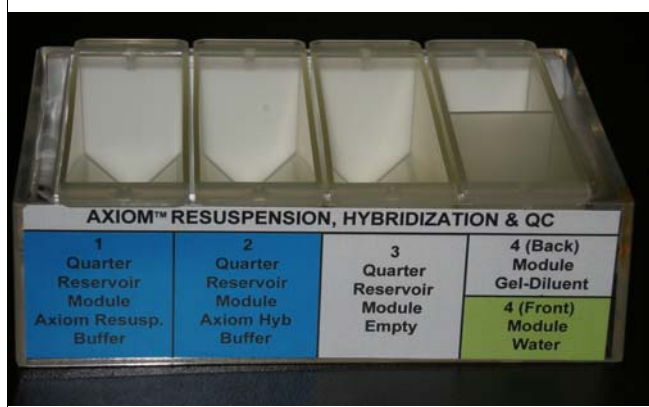
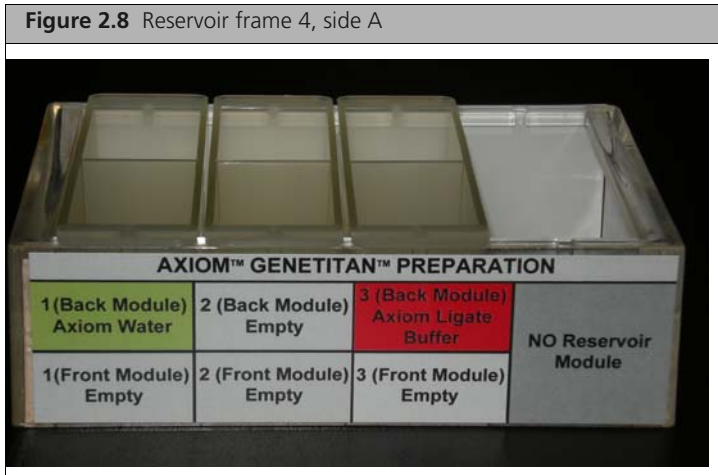


Figure 2.7 Reservoir frame 3, Side B



### Reservoir frame 4



## Other Equipment, Consumables and Reagents Required

### Oven Requirements for Automated Target Prep

See *Oven Requirements for Automated Target Prep* on page 5.

### Thermal Cyclers

We have verified the performance of this assay using the Bio-Rad DNA Engine and Biometra TRobot 96 on the Beckman Biomek Target Prep Express liquid handler. We have also verified the performance of this assay using the following off-deck thermal cyclers:

- BioRad PTC-200
- Biometra TRobot 96
- ABI 9700 with a gold, silver or aluminum block
- ABI 2720
- BioRad MJ 0240G

The performance of this assay has not been verified with other thermal cyclers. Use of other thermal cyclers may result in assay failure and may violate the Axiom Array and Reagent replacement policy.

### Pipettes and Tips

Pipettes and tips recommended for the Axiom™ Genotyping Assay are listed in [Table 2.14](#).

**Table 2.14** Pipettes and tips

✓	Item	Supplier	Part Numbers	
	The following single or multichannel pipettes are required:		Single Channel	Multichannel
□	Pipette, 0.5–10 µL	Rainin	L-10	L12-10
□	Pipette, 2–20 µL	Rainin	L-20	L12-20
□	Pipette tips, LTS filter	Rainin	GP-L10F	GP-L10F

### Related Documentation

- *Affymetrix Axiom Automated Target Prep QRC*, P/N 702831

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## Equipment and Supplies Required for Manual Target Prep

### Equipment Required for Manual Target Prep

**Table 3.15** Additional instruments required for Axiom™ Genotyping Assay with Manual Target Prep

✓	Equipment	Manufacturer/ Distributor	Part Number
□	Two or three ovens (see <a href="#">Oven Requirements for Manual Target Prep on page 5</a> )		
□	Fume Hood (Strongly recommended: see <i>Chapter 4: Axiom Genotyping Assay: Manual Target Preparation</i> in the <i>Axiom Genotyping Assay User Guide</i> for more information)		
□	<ul style="list-style-type: none"> <li>■ Bio-Rad DNA Engine PTC-200/MJ PTC-200 Thermal Cycler</li> <li>■ Whatman Biometra TRobot 96</li> <li>■ BIO-RAD MJ 0240G</li> <li>■ ABI 9700</li> <li>■ ABI 2720</li> </ul> (see <a href="#">Thermal Cycler Recommendations</a> , below)	Bio-Rad Biometra Bio-Rad ABI ABI	
□	One of the following shakers:		
	Titer Plate Shaker- 4PL, 120V	Thermoscientific	4625
	or		
	Jitterbug™	Boekel Scientific	Model 13000

### Amplification Staging Room

Precautions are required when manipulating genomic DNA or setting up amplification reactions to avoid contamination with foreign DNA amplified in other reactions and procedures.

It is highly recommended that genomic DNA manipulations and amplification reaction set up are performed in a dedicated amplification staging room separate from the main laboratory. This amplification staging room should have a dedicated set of pipettes and plastic ware.

If no dedicated amplification staging room is available, use of a dedicated bench or a dedicated biosafety hood and dedicated pipettes is suggested.

If no dedicated bench is available, a set of dedicated pipettes is recommended.

### Thermal Cycler Recommendations

The following thermal cycler is recommended:

- Bio-Rad DNA Engine PTC-200/MJ PTC-200 Thermal Cycler
- Whatman Biometra TRobot 96
- BIO-RAD MJ 0240G
- ABI 9700
- ABI 2720

**IMPORTANT:** Always use the heated lid option when programming protocols.



**NOTE:** The ABI 9700 and the ABI 2720 use the half-skirted 96-well plates (PN HSS-9601)

We have verified the performance of this assay using the following thermal cyclers: BioRad PTC-200, Biometra TRobot 96, ABI 9700 with a gold, silver or aluminum block. ABI 2720 and the BioRad MJ 0240G. The performance of this assay has not been verified with other thermal cyclers. Use of other thermal cyclers may result in assay failure and may violate the Axiom Array and Reagent replacement policy.

The thermocycler needs to be programmed with the “Axiom Denature” protocol:

1. 95 °C 20 min
2. 48 °C 3 min
3. 48 °C hold

Use the heated lid option when setting up or running the protocol.

## Plates

**Table 3.16** Plates required for Axiom Genotyping Assay with Manual Target Prep

✓	Equipment	Manufacturer/ Distributor	Part Number
☐	ABgene® 96 Square Well Storage Plate Mark II, 2.2 mL	Thermo Scientific	AB-0932
☐	Bio-Rad Hard Shell 96-well plate	Bio-Rad	HSP-9631
☐	96-well UV Star Plates, 370 µL/well	E&K Scientific	25801
☐	Hard-Shell Full-Height 96-Well Semi- Skirted PCR Plate required only if using ABI 2720 or ABI 9700 Thermal Cyclers	Bio-Rad	HSS-9601

## Pipettes and Tips

Pipettes and tips recommended for Manual target prep are listed in [Table 3.17](#).

**Table 3.17** Recommended Pipettes and Tips for Axiom Genotyping Assay with Manual Target Prep

✓	Equipment	Manufacturer/ Distributor	Part Number
☐	Pipet-Lite™, Magnetic-Assist single channel P20	Rainin	L-20
☐	Pipet-Lite™, Magnetic-Assist single channel P200	Rainin	L-200
☐	Pipet-Lite™, Magnetic-Assist single channel P1000	Rainin	L-1000
☐	Pipette, 12-channel P20	Rainin	L12-20
☐	Pipette, 12-channel P50 (optional)	Rainin	L12-50
☐	Pipette, 12-channel P200	Rainin	L12-200
☐	Pipette, 12-channel P1200	Rainin	L12-1200
☐	Pipette tips GP = refill	Rainin	GP-L10F

**Table 3.17** Recommended Pipettes and Tips for Axiom Genotyping Assay with Manual Target Prep

✓	Equipment	Manufacturer/ Distributor	Part Number
□	Pipette tips GP = refill	Rainin	GP-L200F
□	Pipette tips GP = refill	Rainin	GP-L1000F
□	Pipette tips RT = with rack	Rainin	RT-L10F
□	Pipette tips RT = with rack	Rainin	RT-L200F
□	Pipette tips RT = with rack	Rainin	RT-L1000F

## Other Labware Required

**Table 3.18** Other labware required for Axiom Genotyping Assay with Manual Target Prep

✓	Equipment	Manufacturer/ Distributor	Part Number
□	Tube, Falcon™, 50 mL	VWR	21008-940
□	Tube, Falcon, 15 mL	VWR	20171-020
□	Solution Basin, 100 mL sterile, multichannel	Labcor	730-014
□	Solution Basin, 55 mL sterile, multichannel	Labcor	730-004
□	50 mL tube metal chamber	Diversified Biotech	CHAM-7000
□	96 well plate metal chamber	Diversified Biotech	CHAM-1000
□	Pipet-aid	VWR	53106-220
□	Serological Pipettes (10ml)	VWR	53283-708
□	Serological Pipettes (5ml)	VWR	53283-706

## Related Documentation

- *Affymetrix Axiom Manual Target Prep QRC, P/N 702927*

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## Supplier Contact List

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**NOTE:** The prefix www has not been included for web site addresses that do not require its usage.

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**Table A.1** Supplier Contact List

Supplier	Web Site Address
Affymetrix	www.affymetrix.com
Applied Biosystems	www.appliedbiosystems.com
Beckman Coulter	www.beckmancoulter.com
Bio-Rad	bio-rad.com
E&K Scientific	eandkscientific.com
Eppendorf	eppendorf.com
Life Technologies (Invitrogen)	www.lifetechnologies.com
Rainin	www.rainin.com
Scientific Industries	www.scientificindustries.com
Sigma-Aldrich	www.sigma-aldrich.com
TEKnova	www.teknova.com
Thermo Scientific	www.thermo.com
USB Corporation (Affymetrix)	www.usbweb.com
VWR	vwr.com
Biometra	www.biometra.com

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