

# A QuickStart Guide for the Creation and Ordering of SureSelect Target Enrichment Oligo Sets without the Wizard

Using **eArray**,  
a free web-based  
design tool



# Table of Contents

- **Getting Started**
  - Access eArray
  - Confirm Application Type
  - Select Method
- **Terms and Definitions**
- **Workflow Summary**
- **Create a Bait Group**
  - Design Baits
  - Design Options
  - Design Strategy
  - Centered versus Justified
  - Formats for Describing Target Intervals
  - Check Bait Group Status
  - View Design Details
  - Download the Design
  - Create Bait Group
- **Examine Bait Group**
  - Look for Missed Targets
  - View Design in UCSC Browser
  - Identify Targets for Potential Re-Tiling
- **Complete Design for All Bait Groups**
- **Create the Library**
  - Select Bait Groups to Include in the Library
  - Select the Species
  - Define the Library
  - Review Library Details and Submit as Complete
  - Finalize Submission
- **Generate a Quote**
  - Select Library
  - Describe Order
  - Review and Submit Quote

# Getting Started

## Access eArray

- Access eArray at: <https://earray.chem.agilent.com/earray/>
- Log in to eArray, if this is your first time visiting, click **Request for Registration**

Agilent Technologies  
eArray

Guest View | Login Page | Help

### User Login

Login Name:

☐ Remember my login name

Password:

**LOGIN**

[Forgot Password](#)

[Request for Registration](#)

### Important Links

- [Catalog Gene Lists](#)
- [Published Designs](#)
- [eArray Product Page](#)
- [System Requirements](#)

### Additional Information

- [Frequently asked questions](#)
- [Information on how to do common tasks](#)
- [Download DNA Analytics 4.0](#)
- [Download GeneSpring GX](#)

### News and Alerts

**Welcome to eArray 5.4!!**

[Get 15% off your first time eArray design order here](#)

The Login Name is the e-mail address used to register

# Getting Started

## Confirm Application Type

- Confirm that the Application Type is **TargetEnrichment**

Agilent Technologies eArray

Help | Logout

Welcome Demo User (Agilent Marketing)

Workspace Collaboration Public

Home Libraries Bait Groups Baits My Account

Application Type: **TargetEnrichment** [Switch Application Type](#)

**Search**

☒ Libraries ☐ Bait Groups ☐ Baits

Library Name:

Species:  [Select and Add](#)

ELID:  [Upload](#)

[Search](#) [Reset](#)

**Library Wizards**

[Refresh](#) [View All](#)

☐ Create Library from Bait Upload [Info](#)

☒ Create Library from Existing Bait Group(s) [Info](#)

☐ Create Library by Bait Tiling [Info](#)

[Custom Design Guidance](#)

[Next >>](#)

Search Results: 0 matching results found

**Pending Jobs**

[Refresh](#) [View All](#)

Search Results: 1 matching results found

Job Type	Job Name	Status	Created Date	Job Position	Action
Bait Tiling	Demo_BaitTiling	Bait Design Completed	27-Jan-2009		

If you have difficulty downloading the desired file, hold down the «Ctrl» key until a File Download dialog box appears. This bypasses pop-up blocking software.

[eArray Contact/Support](#) • [eArray Terms of Use](#) • [FAQ](#) • © Copyright Agilent Technologies, Inc. 2002-2009

**My Libraries**

[Refresh](#) [View All](#)

Search Results: 2 matching results found

Name	Created Date	Action
Demo_BaitTiling_Library2	28-Jan-2009	<a href="#">Guide</a>   <a href="#">Download</a>
Demo_BaitTilingLibrary	29-Jan-2009	<a href="#">Guide</a>   <a href="#">Download</a>

If necessary, select **Switch Application Type** to select Target Enrichment

Agilent Technologies eArray

Select View Type : **TargetEnrichment**

Set As Default View

[Change](#)

- Expression
- ChIP
- CGH
- DNACapture
- microRNA
- TargetEnrichment**

# Getting Started

## Select Method

- Choose between two methods for creating a SureSelect Target Enrichment Set

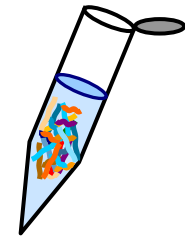
	Benefits	Caveats	When to Use
<b>Following the Wizard*</b>	<ul style="list-style-type: none"><li>• Easy, stream-lined method</li><li>• The Wizard takes the user from initiation of design to submission</li></ul>	<ul style="list-style-type: none"><li>• The user will only be able to download the library details after the library is completed</li><li>• The user will not have access to a "fate" file</li></ul>	When a simple or straightforward design is planned
<b>Independent of the Wizard</b>	<ul style="list-style-type: none"><li>• User can download additional files, including a Fate file that lists the # of baits tiled for each target interval</li><li>• User can fine-tune the design, creating and combining multiple bait groups with a variety of parameter settings</li><li>• User can easily track the success of bait tiling for individual targets during the process of design</li></ul>	<ul style="list-style-type: none"><li>• User will not be guided by a Wizard</li></ul>	When iterations may be desired to get an optimal design for a target set

**\* This tutorial guides the user on how to create a design independent of the Wizard. If desired, please see the tutorial on how to create a design with the Wizard.**

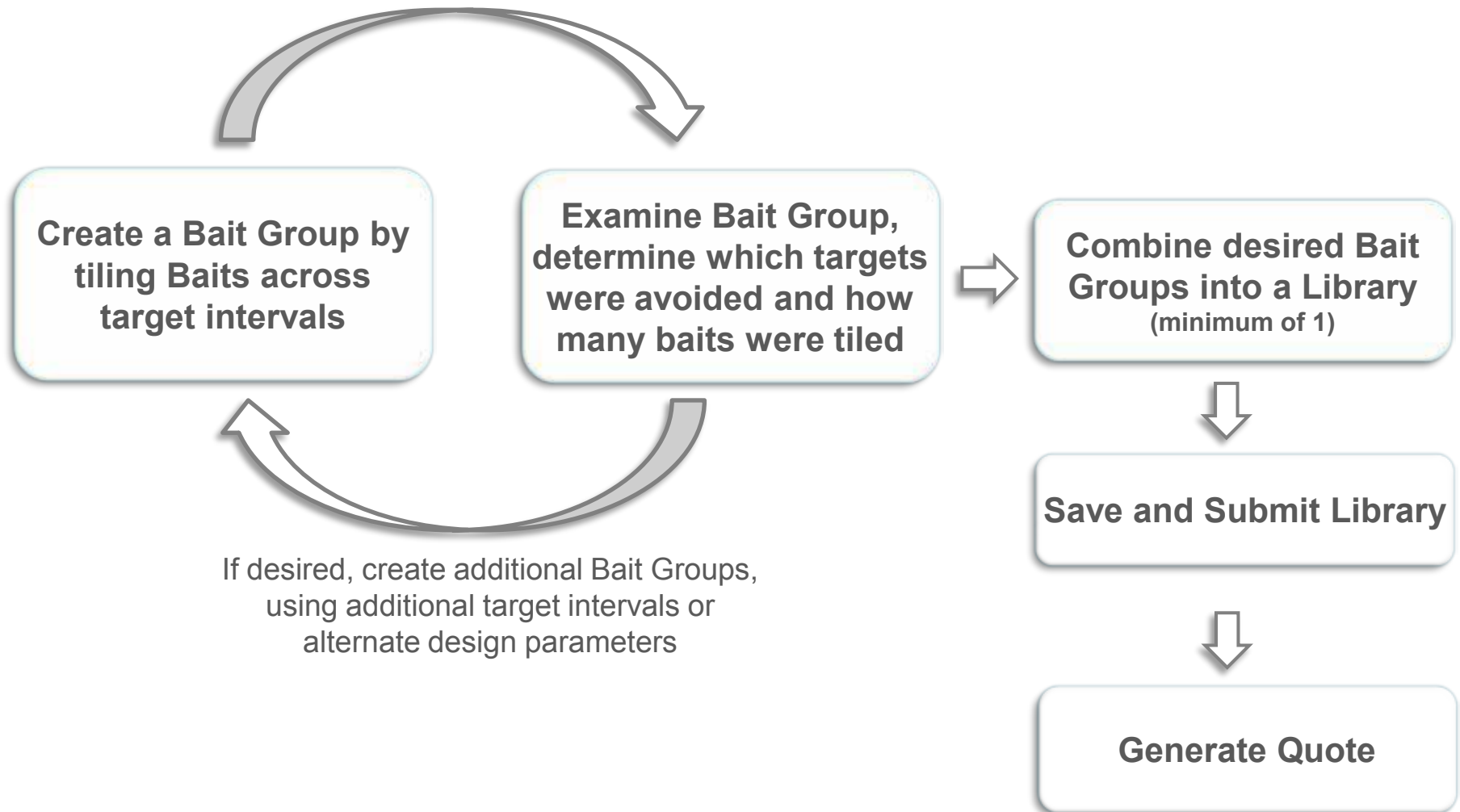


# Terms and Definitions

- **Bait:**
  - A single oligo sequence of pre-determined length (120 bp) that complements a targeted region of the genome
- **Bait Group:**
  - Consists of a group of Baits designed to complement a single or set of targeted intervals
  - May be formed from baits generated within eArray, baits uploaded into eArray, or bait search results within eArray
- **Library:**
  - Consists of one or more Bait Groups
  - Represents the set of oligos that will be produced for the kit



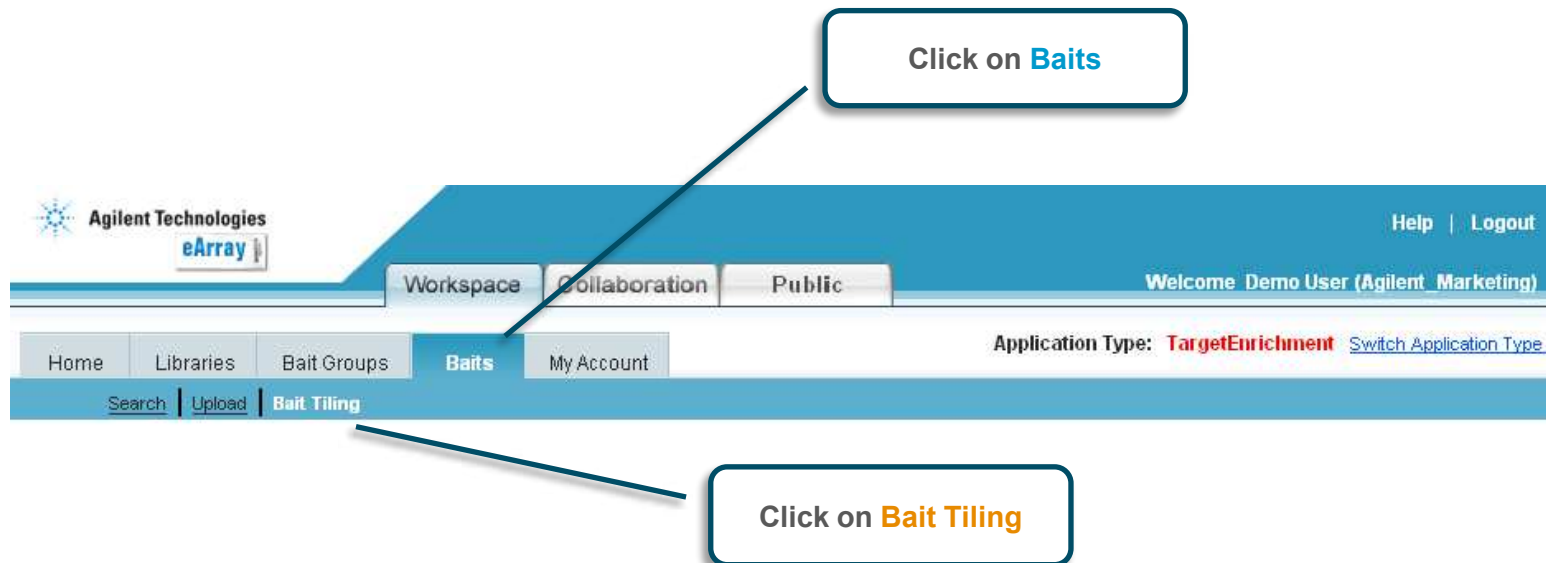
# Workflow Summary



# Create a Bait Group

## Design Baits

- To create a Bait Group, go to the **Baits** page, and select **Bait Tiling**



- This will bring you to the page where you can define design parameters for a Bait Group



# Create a Bait Group

## Design Options

**1. Enter a name for the design job.**

**2. Design Strategy:** To use the parameters previously optimized for general bait tiling, leave the checkmark on this option. To change the parameters, uncheck this option. **The next slide** describes the parameter changes that can be applied.

**3. Species:** Select the species for which the target intervals were designed. The Genome Build will then automatically be populated by eArray.

The screenshot shows the 'Bait Tiling' interface with the following fields and callouts:

- Design Options:**
  - Design Job Name:** First Bait Group (Callout 1)
  - Sequencing Technology:** Illumina
  - Sequencing Protocol:** end-sequencing
  - Design Strategy:** ☒ Use Optimized Parameters (Callout 2)
  - Bait Length:** 120 bp
  - Bait Tiling Frequency:** 2x
  - Allowed overlap into avoid regions:** 20 bp
- Target Details:**
  - Species:** H. sapiens (Callout 3)
  - Genome Build:** H. sapiens, UCSC hg18, NCBI Build 36, Marc
  - Genomic Target Intervals:** chrX:100003816-100003948 | chrX:1000 (Callout 4)
  - Genomic Avoid Intervals:**
    - ☒ Avoid Standard Repeat Masked Regions (Callout 5)
    - ☐ Custom Avoid Intervals

Buttons: Submit, Cancel, Upload

**4. Genomic Target Intervals:** Either type in or upload the genomic intervals for the targets to be enriched. Examples are provided on **a later slide**.

### 5. Genomic Avoid Intervals:

- Choose to avoid the standard repeat masked regions by leaving a checkmark next to this option (based on the UCSC RepeatMasker track).
- Add additional intervals to avoid with the baits by typing those intervals in or uploading them in the same format as the target intervals.

**6. Submit:**  
Select Submit when Options and Details are completed.

# Create a Bait Group

## Design Strategy

**1. Change the parameters:** To be able to change these parameters, first remove the checkbox from the “Use Optimized Parameters” option.

**Design Strategy** [Info](#)

☐ Use Optimized Parameters

☒ Centered ☐ Justified

**Bait Length** 120 bp

**Bait Tiling Frequency** [Info](#) 2x

**Allowed overlap into avoid regions** [Info](#) 20 bp

### 5. Allowed overlap into avoid regions:

Centered baits may overlap with regions adjacent to the target. In case the targets are adjacent to Avoid Regions, enter the acceptable amount of overlap with these in bp. To ensure that there is no overlap in any Avoid Regions, select '0 bp'.

## 2. Centered versus Justified: (see next slide for visuals)

### Centered:

Baits are centered, and evenly distributed, across each target region. Baits may overlap to regions outside of the target.

**Why use this?** This is the method tested most extensively.

### Justified:

Baits are first tiled across the target. If baits extend past the target interval, all baits are shifted inward so that there will be no overlap with adjacent but un-targeted genomic regions.

**Why use this?** If it is desired to avoid having baits to any region adjacent to targets, for example, if sequencing cDNA.

**3. Bait Length:** Currently, 120 bp is available as the only bait length option. All baits will be designed to be 120 bp in length.

## 4. Bait Tiling Frequency:

Options include 2X, 3X, 4X, and 5X and indicate the amount of bait overlap. Tiling frequency is not enforced at target edges. Increasing the frequency will lead to the ability to cover fewer or smaller regions in a library.

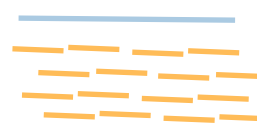
### 2X Tiling:



### 3X Tiling:



### 4X Tiling:



### 5X Tiling:

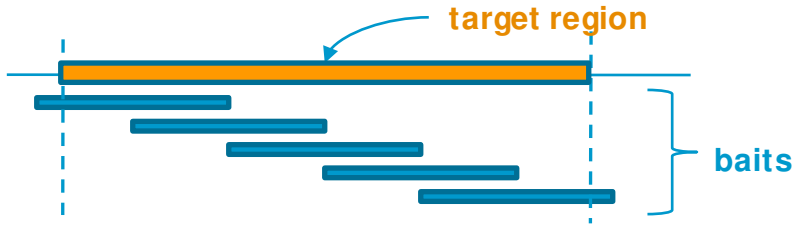


# Create a Bait Group

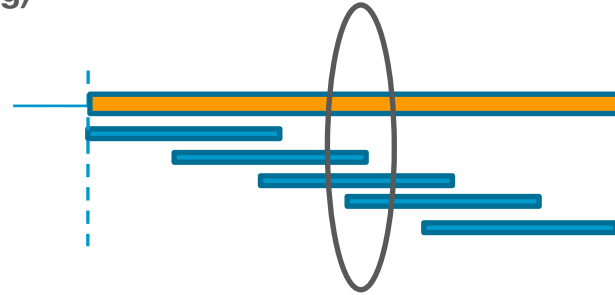
## Centered versus Justified

### Centered

(a) Target region is large (example of 2x tiling)



### Justified



Centered baits extend past interval boundaries, but have even coverage across entire region  
Justified baits do not extend past boundaries, but may have uneven coverage (eg, see circle where regions have both 2x and 3x tiling)

(b) Target region is 2 times the bait length



Design is the same for Centered and Justified

(c) Target region is shorter than the bait length



Design is the same for Centered and Justified



# Create a Bait Group

## Formats for describing Target Intervals

Target Details	
Species	H. sapiens
Genome Build	H. sapiens, UCSC hg18, NCBI Build 36, Marc
Genomic Target Intervals <a href="#">Info</a>	chrX:100003816-100003948   chrX:1000 <div>Upload</div>

### Option 1: Type in the genomic intervals to be targeted.

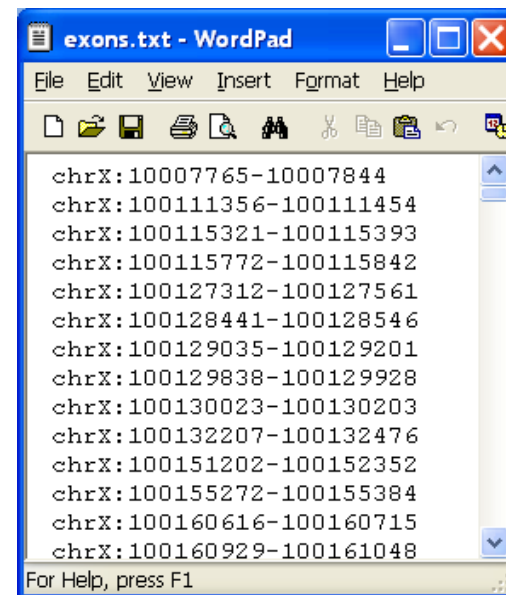
The format for typing in the intervals is as follows:

**chrX:100003816-100003948|chrX:100004037-100004218|chrX:100004314-100004465|chrX:100004329-100004465|chrX:100004804-100004888**

Each interval should be separated by the | character. If there is a long list of intervals, it would be better to use option 2.

### Option 2: Upload a file that includes the genomic intervals to be targeted:

The format for uploading the intervals is as follows:



Each interval should be presented on a separate line, and the file should be saved as a text file.

When using this option, select **Upload**, **Browse** to find the saved file, and then select **Upload File**.

# Create a Bait Group

## Check Bait Group Status

- The status of your Bait Group can be viewed in the Pending Jobs quadrant on the [Home](#) page (see left), or at the bottom of the [Baits](#) page (see right)
- To continue, you must be on the [Baits](#) page

Home Libraries Bait Groups Baits My Account

Search

Libraries Bait Groups Baits

Library Name:

Species:  [Select and Add](#)

ELID:  [Upload](#)

[Search](#) [Reset](#)

Pending Jobs [Refresh](#) [View All](#)

Search Results: 1 matching results found.

Job Type	Job Name	Status	Created Date	Job Position	Action
Bait Tiling	FirstBaitGroup	Bait Design Completed	05-Feb-2009		

Agilent Technologies nArray

Help | Logout

Workspace Collaboration Public

Welcome Demo User (Agilent Marketing)

Application Type: [TargetEnrichment](#) [Switch Application Type](#)

Home Libraries Bait Groups Baits My Account

[Search](#) [Upload](#) [Bait Tiling](#)

Design Options

Design Job Name:

Sequencing Technology: [Illumina](#)

Sequencing Protocol: [end-sequencing](#)

Design Strategy: ☒ Use Optimized Parameters

☐ Centered ☐ Justified

Bait Length:  bp

Bait Tiling Frequency:

Allowed overlap into avoid regions:  bp

Target Details

Species: [H. sapiens](#)

Genome Build: [H. sapiens UCSC hg18, NCBI Build 36, Marc](#)

Genomic Target Intervals:  [Upload](#)

Genomic Avoid Intervals

☒ Avoid Standard Repeat Masked Regions [Info](#)

☐ Custom Avoid Intervals [Info](#) [Upload](#)

[Submit](#) [Cancel](#)

If you have difficulty downloading the desired file, hold down the «Ctrl» key until a File Download dialog box appears. This bypasses pop-up blocking software.

Search Results: 1 matching results found.

[Refresh](#)

Job ID	Job Name	Status	Design Type	Creation Date	Position in Queue	Actions
B407162395	FirstBaitGroup	Completed	Bait Tiling	05-Feb-2009	NA	<a href="#">Delete</a>   <a href="#">View Design</a>   <a href="#">Download</a>   <a href="#">Create Bait Group</a>

[Refresh](#)

If you have difficulty downloading the desired file, hold down the «Ctrl» key until a File Download dialog box appears. This bypasses pop-up blocking software.

Note: Your design results will be removed from the system 2 weeks after design completion!

# Create a Bait Group

## View Design Details (I)

- To view the Bait Group design, click on **View Design** on the **Baits** page

The screenshot shows the Agilent Technologies eArray web interface. The top navigation bar includes 'Workspace', 'Collaboration', and 'Public' tabs. The user is logged in as 'Demo User (Agilent\_Marketing)'. The main navigation bar shows 'Home', 'Libraries', 'Bait Groups', 'Baits', and 'My Account'. The 'Baits' tab is selected, and the 'Bait Tiling' sub-tab is active. The 'Design Options' section includes fields for 'Design Job Name', 'Sequencing Technology' (Illumina), 'Sequencing Protocol' (end-sequencing), 'Design Strategy' (Use Optimized Parameters), 'Bait Length' (120 bp), 'Bait Tiling Frequency' (2x), and 'Allowed overlap into avoid regions' (20 bp). The 'Target Details' section includes 'Species' (H. sapiens), 'Genome Build' (H. sapiens, UCSC hg18, NCBI Build 36, Marc), 'Genomic Target Intervals', and 'Genomic Avoid Intervals' (Avoid Standard Repeat Masked Regions). The 'Submit' and 'Cancel' buttons are at the bottom.

If you have difficulty downloading the desired file, hold down the <Ctrl> key until a File Download dialog box appears. This bypasses pop-up blocking software.

Search Results: 1 matching results found

[Refresh](#)

Job ID	Job Name	Status	Design Type	Creation Date	Position in Queue	Actions
BI407162395	FirstBaitGroup	Completed	BaitTiling	05-Feb-2009	NA	<a href="#">Delete</a> <a href="#">View Design</a> <a href="#">Download</a> <a href="#">Create Bait Group</a>

[Refresh](#)

If you have difficulty downloading the desired file, hold down the <Ctrl> key until a File Download dialog box appears. This bypasses pop-up blocking software.

**Note:- Your design results will be removed from the system 2 weeks after design completion!**

# Create a Bait Group

## View Design Details (II)

- Toggle between Design Summary, Design Details, Target Fate, and Bed File to view the details of the bait design (only the first 100 lines will be presented).

Design Summary	Design Details	Target Fate	Bed File
Number of Input Targets : 8423			
Number of Valid Targets : 8423			
Number of Baits per Targets : 4.86			
Number of Targets with Baits Designed : 8081			
Number of Baits : 40931			
Number of Baits removed due to avoids : 2311			
Standard Deviation of Bait Length : 0.0			
Mean of Bait Length : 120.0			
Minimum Bait Length : 120			
Maximum Bait Length : 120			

First 100 lines of Bait Tiling Design Details for "B1407149254"				
Design Summary	Design Details	Target Fate	Bed File	
Target ID	Genomic Location	Sequence	Bait Length	
chrX:140476646-140476911	chrX:140476619-140476938	CTCCTCACAAGCCTCGGCGAGCTTAAGTCCACCGGATCAAGCCGCCCTCAGAAAGGAGGCTCTCCTCTCTGACCCCAAGTGGCAGCOTCAGTGACOTCACAATCGGCCGCCAA	120	
chrX:46989025-46989267	chrX:46989026-46989145	AGATGACGAGGAGATAAAGATGACGTCCCTCGGCGCTCAACTGGGGGAGGCTCCGAGACCTGAGCCAGAGCAGGCTGGGCGCCAGCTCTGAGTCAAGCAAGGTGCCCTCTCTCT	120	
chrX:46989025-46989267	chrX:46989026-46989267	CCCTGAGCAGAGCAGGCTGGGCGAGCTCTGAGTCAAGCAAGGTGCCCTCTCTCTGAGTCAAGCAAGGTGCCCTCTCTCTGAGTCAAGCAAGGTGCCCTCTCTCT	120	

First 100 lines of Bait Tiling Design Details for "B1407149254"				
Design Summary	Design Details	Target Fate	Bed File	
Target ID	Status	Target Length	Bait Generated	
TARGET:chrX:140476646-140476911	Pass	66	1	
TARGET:chrX:46989025-46989267	Pass	243	5	
TARGET:chrX:24001129-24001301	Pass	173	3	

First 100 lines of Bait Tiling Design Details for "B1407149254"					
Design Summary	Design Details	Target Fate	Bed File		
Chromosome	Chromosome Start	Chromosome Stop	Bait Name	Score	Strand
chrX	140476619	140476938	B1407149254_0	1000	+
chrX	046989026	046989145	B1407149254_2	1000	+
chrX	046989026	046989205	B1407149254_3	1000	+
chrX	046989206	046989325	B1407149254_5	1000	+

# Create a Bait Group

## Download the Design (I)

- To download the design results files, click on **Download** on the **Baits** page.
- It may be necessary to hold down the Ctrl key until the File Download dialog box appears

Agilent Technologies eArray

Help | Logout

Workspace Collaboration Public

Welcome Demo User (Agilent Marketing)

Home Libraries Bait Groups **Baits** My Account

Application Type: **TargetEnrichment** [Switch Application Type](#)

Search Upload **Bait Tiling**

**Design Options**

Design Job Name

Sequencing Technology [Info](#) Illumina

Sequencing Protocol [Info](#) end-sequencing

Design Strategy [Info](#) ☒ Use Optimized Parameters

☐ Centered ☐ Justified

Bait Length 120 bp

Bait Tiling Frequency [Info](#) 2x

Allowed overlap into avoid regions [Info](#) 20 bp

**Target Details**

Species H. sapiens

Genome Build H. sapiens, UCSC hg18, NCBI Build 36, Marc

Genomic Target Intervals [Info](#) Upload

Genomic Avoid Intervals

☒ Avoid Standard Repeat Masked Regions [Info](#)

☐ Custom Avoid Intervals [Info](#) Upload

Submit Cancel

If you have difficulty downloading the desired file, hold down the <Ctrl> key until a File Download dialog box appears. This bypasses pop-up blocking software.

Search Results: 1 matching results found

Refresh

Job ID	Job Name	Status	Design Type	Creation Date	Position in Queue	Actions
BI407162395	FirstBaitGroup	Completed	BaitTiling	05-Feb-2009	NA	<a href="#">Delete</a>   <a href="#">View Design</a>   <a href="#">Download</a>   <a href="#">Create Bait Group</a>

Refresh



# Create a Bait Group

## Download the Design (II)

There are four files included in the downloaded zip:

Example of a Fate file:

	A	B	C	D	E
1	<b>TargetID</b>	<b>Status</b>	<b>Target Length</b>	<b>Baits Generated</b>	
2	TARGET:chrX:148476846-148476911	Pass	66	1	
3	TARGET:chrX:46989025-46989267	Pass	243	5	
4	TARGET:chrX:24001129-24001301	Pass	173	3	
5	TARGET:chrX:152694536-152694863	Pass	328	5	

Example of a BED file:

```
BaitTiling_bed - WordPad
File Edit View Insert Format Help
brower position
track name=BaitTiling description="" visibility=2 color=0,128,0 useScore=1
chrX 148476819 148476938 BI407162395_0 1000 +
chrX 046989026 046989145 BI407162395_2 1000 +
chrX 046989086 046989205 BI407162395_3 1000 +
For Help, press F1
```

Example of a Summary file:

	A	B	C
1	numInputTargets	8423	
2	numValidTargets	8423	
3	numBaitPerTarget	4.86	
4	numTargetsWithBait	8081	
5	numBaits	40931	
6	numBaitsRemovedDueToAvoids	2311	
7	lengthSD	0	
8	lengthMean	120	
9	lengthMin	120	
10	lengthMax	120	

Example of a TDT (tab delimited table) file:

	A	B	C	D
1	<b>TargetID</b>	<b>BaitLocation</b>	<b>Sequence</b>	<b>BaitLength</b>
2	chrX:148476846-148476911	chrX:148476819-148476938	CTCCTCACAGAGCCTCC	120
3	chrX:46989025-46989267	chrX:46989026-46989145	AGATGACGAGGAGGAT	120
4	chrX:46989025-46989267	chrX:46989086-46989205	CCCTGAGCCAGAGCAG	120

# Create Bait Group

## Create Bait Group

Once satisfied with the Bait Group Design, select **Create Bait Group**

Check the status of the Bait Group creation in the Pending Jobs quadrant of the **Home** page

The screenshot shows the 'Bait Tiling' design interface. It includes sections for 'Design Options' and 'Target Details'. The 'Design Options' section has fields for Design Job Name, Sequencing Technology (Illumina), Sequencing Protocol (end-sequencing), Design Strategy (Use Optimized Parameters), Bait Length (120 bp), Bait Tiling Frequency (2x), and Allowed overlap into avoid regions (20 bp). The 'Target Details' section has fields for Species (H. sapiens), Genome Build (H. sapiens, UCSC hg18, NCBI Build 36, Marc), Genomic Target Intervals, and Genomic Avoid Intervals (Avoid Standard Repeat Masked Regions). There are 'Submit' and 'Cancel' buttons at the bottom.

Below the design interface, a message states: "If you have difficulty downloading the desired file, hold down the «Ctrl» key until a File Download dialog box appears. This bypasses pop-up blocking software."

Below the message, a table shows search results for the bait group design:

Job ID	Job Name	Status	Design Type	Creation Date	Position in Queue	Actions
BH07162395	FirstBaitGroup	Completed	Bait Tiling	05-Feb-2009	NA	<a href="#">Delete</a>   <a href="#">View Design</a>   <a href="#">Download</a>   <a href="#">Create Bait Group</a>

The screenshot shows the 'Pending Jobs' quadrant of the Home page. It includes a search bar and a table of pending jobs.

Search Results: 2 matching results found

Job Type	Job Name	Status	Created Date	Job Position	Action
BaitUpload	B0407167087	Upload Processing	05-Feb-2009		
BaitTiling	FirstBaitGroup	Bait Design Completed	05-Feb-2009		

While waiting for the Bait Group to be created, design additional Bait Groups, if desired



# Examine Bait Group

## Look for Missed Targets

- Open the [BaitTiling\\_fate](#) file in Excel
- Sort the file for **Status** to identify invalid (failed) genomic coordinates
  - These are targets for which the genomic coordinates could not be correctly assigned
- Sort the file for **Baits Generated** to identify targets for which no baits were assigned
  - In this example, according to the [BaitTiling\\_sum](#) file (left):  $8423 - 8081 = 342$  targets were not assigned baits; these can be viewed on the right in the [BaitTiling\\_fate](#) file

	A	B	C
1	numInputTargets	8423	
2	numValidTargets	8423	
3	numBaitPerTarget	4.86	
4	numTargetsWithBait	8081	
5	numBaits	40931	
6	numBaitsRemovedDueToAvoids	2311	
7	lengthSD	0	
8	lengthMean	120	
9	lengthMin	120	
10	lengthMax	120	

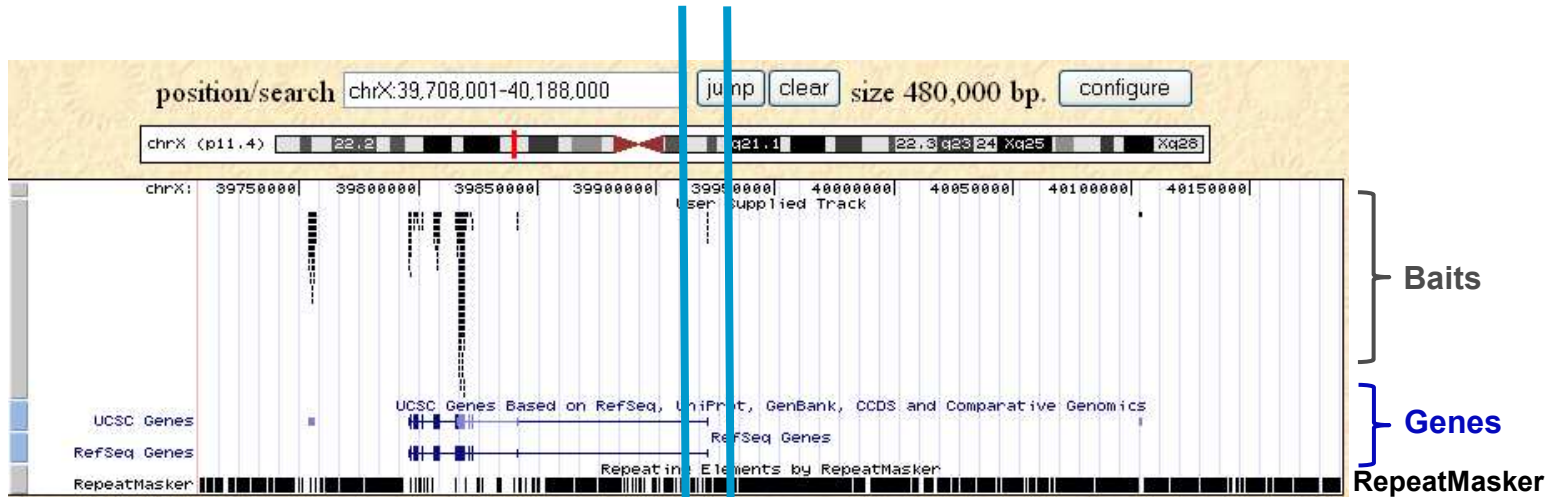
	A	B	C	D
1	<b>TargetID</b>	<b>Status</b>	<b>Target Length</b>	<b>Baits Generated</b>
2	TARGET:chrX:114947632-114949510	Pass	1879	0
3	TARGET:chrX:101598384-101598491	Pass	108	0
4	TARGET:chrX:103060664-103060787	Pass	124	0
5	TARGET:chrX:52260569-52260678	Pass	110	0
6	TARGET:chrX:154002692-154004543	Pass	1852	0
7	TARGET:chrX:134674851-134675089	Pass	239	0
8	TARGET:chrX:49190972-49191088	Pass	117	0
9	TARGET:chrX:135213958-135214032	Pass	75	0
10	TARGET:chrX:52397077-52397187	Pass	111	0

# Examine Bait Group

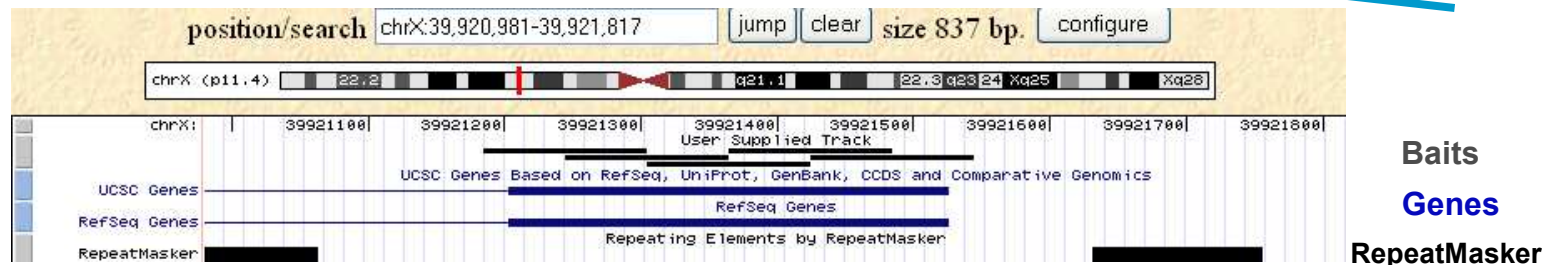
## View Design in UCSC Browser

- The BED file can be uploaded into the UCSC browser as an easy method to visualize the probes tiled across targets of interest

Segment of chrX  
with baits tiled  
across exons  
(target intervals)



Zoomed in  
view of baits  
tiled across a  
single exon



# Examine Bait Group

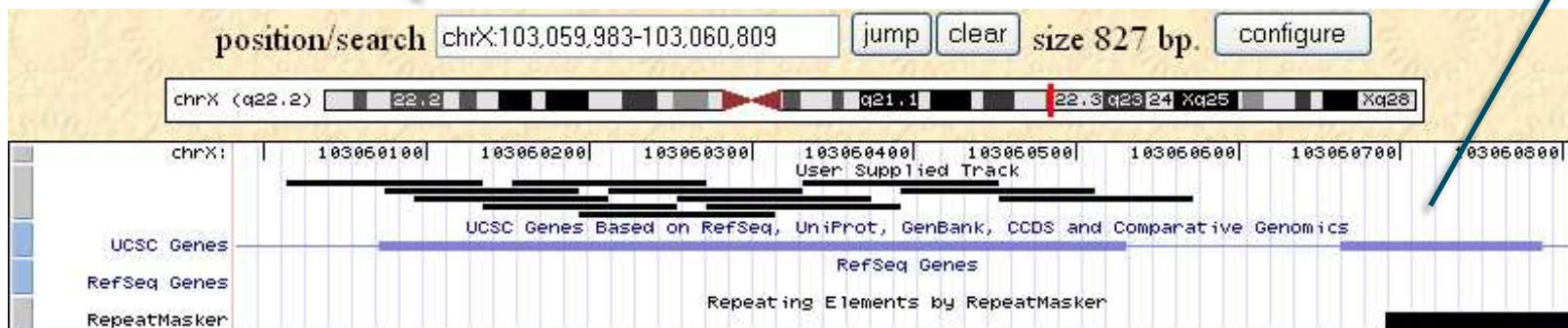
## Identify Targets for Potential Re-Tiling

1. Select targets not assigned baits in the Fate file.

2. Upload BED file to the UCSC browser, and zoom in on the target to identify the reason that it was provided zero baits.

	A	B	C	D	E
1	<b>TargetID</b>	<b>Status</b>	<b>Target Length</b>	<b>Baits Generated</b>	
2	TARGET:chrX:114947632-114949510	Pass	1879	0	
3	TARGET:chrX:101598384-101598491	Pass	108	0	
4	TARGET:chrX:103060664-103060787	Pass	124	0	
5	TARGET:chrX:52260569-52260678	Pass	110	0	

3. In this example, the exon on the right is covered by a section identified as "repeats" by the RepeatMasker track, and design parameters had specified to avoid these regions. Therefore, this target received zero baits.



} Baits  
} Genes  
RepeatMasker

If the target is still desired, it is possible to create a new, additional Bait Group for this target with new design parameters that allow repeat regions. Both Bait Groups can later be included in the final library.

# Complete Design for all Bait Groups

- Before proceeding to create the Library, complete the design for all Bait Groups that might be included in that Library
- Reasons for using multiple Bait Groups include:
  - To use different design options for different targets
  - To include Bait Groups from previous projects
  - To maintain separate Bait Groups based on target types; for example, a Bait Group of chrX exons, a Bait Group for Kinases, and so on

Search Results: 2 matching results found

[Refresh](#)

Job ID	Job Name	Status	Design Type	Creation Date	Position in Queue	Actions
BI407194606	SecondBaitGroup	In Queue	BaitTiling	06-Feb-2009	Job 1 of 1	<a href="#">Delete</a>
BI407162395	FirstBaitGroup	Completed	BaitTiling	05-Feb-2009	NA	<a href="#">Delete</a>   <a href="#">View Design</a>   <a href="#">Download</a>

[Refresh](#)



# Create the Library

## Select Bait Groups to Include in the Library

1. Go to the **Bait Groups** page, and select **Browse BaitGroup**

2. Place a check next to any Bait Groups that should be included in the Library

Home Libraries **Bait Groups** Baits My Account

Application Type: **TargetEnrichment** [Switch Application Type](#)

[Search](#) | [Browse BaitGroup](#)

**Browse WorkGroup by Category**

— Category

**Browse Catalog by Category**

[-] Category

- [-] Applications
- [-] Species

**Browse by Folder**

[-] ROOT

- [-] AgilentCatalog
- [-] Agilent\_Marketing

**View Bait Group**

Status:  [Filter](#)

Search Results: 5 matching results found

[Create Library](#) [Share](#) [Move](#)

<input type="checkbox"/>	Bait Group Name	No.of Baits	Length	Folder	Status	Created Date	Actions
<input type="checkbox"/>	Demo_BaitTiling	33910	120	Agilent_Marketing	Locked	28-Jan-2009	<a href="#">Copy</a>   <a href="#">View</a>   <a href="#">Delete</a>   <a href="#">Download</a>
<input checked="" type="checkbox"/>	FirstBaitGroup	40931	120	Agilent_Marketing	Incomplete	05-Feb-2009	<a href="#">Copy</a>   <a href="#">Edit</a>   <a href="#">View</a>   <a href="#">Delete</a>   <a href="#">Download</a>
<input checked="" type="checkbox"/>	SecondBaitGroup	81	120	Agilent_Marketing	Incomplete	06-Feb-2009	<a href="#">Copy</a>   <a href="#">Edit</a>   <a href="#">View</a>   <a href="#">Delete</a>   <a href="#">Download</a>
<input type="checkbox"/>	Wizard_Demo	19466	120	Agilent_Marketing	Incomplete	28-Jan-2009	<a href="#">Copy</a>   <a href="#">Edit</a>   <a href="#">View</a>   <a href="#">Delete</a>   <a href="#">Download</a>
<input type="checkbox"/>	Wizard_Demo_Job	40931	120	Agilent_Marketing	Locked	04-Feb-2009	<a href="#">Copy</a>   <a href="#">View</a>   <a href="#">Delete</a>   <a href="#">Download</a>

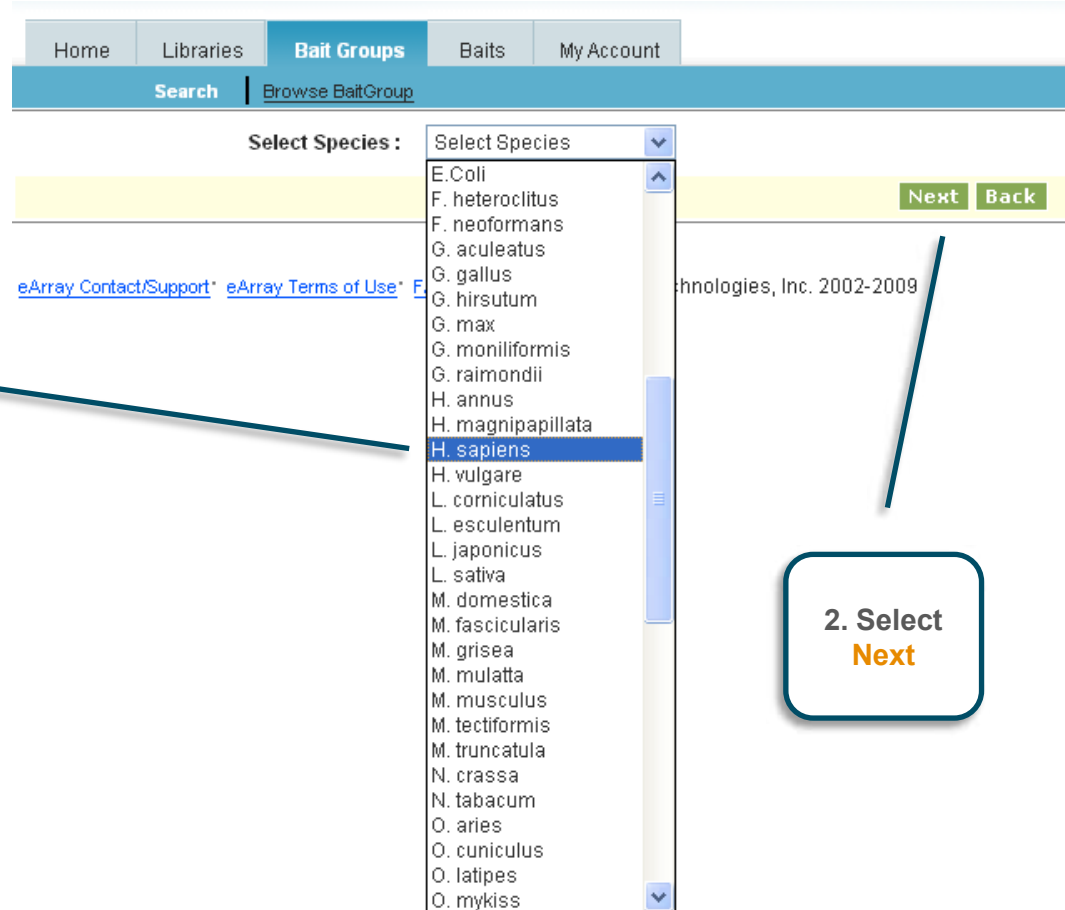
[Create Library](#) [Share](#) [Move](#)

3. Select **Create Library**



# Create the Library

## Select the Species



Home Libraries **Bait Groups** Baits My Account

Search Browse BaitGroup

Select Species : Select Species

[eArray Contact/Support\\*](#) [eArray Terms of Use\\*](#)

Next Back

Technologies, Inc. 2002-2009

**1. Select the species**

**2. Select Next**

E.Coli  
F. heteroclitus  
F. neoformans  
G. aculeatus  
G. gallus  
G. hirsutum  
G. max  
G. moniliformis  
G. raimondii  
H. annus  
H. magnipapillata  
**H. sapiens**  
H. vulgare  
L. corniculatus  
L. esculentum  
L. japonicus  
L. sativa  
M. domestica  
M. fascicularis  
M. grisea  
M. mulatta  
M. musculus  
M. tectiformis  
M. truncatula  
N. crassa  
N. tabacum  
O. aries  
O. cuniculus  
O. latipes  
O. mykiss



# Create the Library

## Define the Library

1. Provide a name for the library

2. Set the length for the baits

3. Provide a Description, Keywords, and Comments

4. View the Library statistics

Home Libraries Bait Groups Baits My Account

Application Type: **TargetEnrichment** [Switch Application Type](#)

[Search](#) | [Create Library](#) | [Browse Library](#) | [Notification](#) | [Request for Quote](#)

**Create Library :**

Library Name:	<input type="text" value="GP_Demo_Feb09"/>	Length:	<input type="text" value="120"/>	Number of Available Features:	16668
Status:	Draft	Library Size:	<input type="text" value="1 X 55K"/> <a href="#">Show Details</a>	Number of Agilent Controls:	70
Folder:	<input type="text" value="Agilent_Marketing"/>	Control Grid:	<input type="text" value="IS-57750-1-V1 Hs 55K TE 120"/>	Number of User Controls:	0
Species:	H. sapiens	Number of Libraries:	1	Percentage Filled:	71.13766 %
Attachment:	<input type="text" value="+/-"/>	Total Number of Features:	57750	Percentage Feature Occupied:	71.13766 %
Description:	<input type="text" value="Demo"/>	Keywords:	<input type="text" value="Demo"/>	Comments:	<input type="text" value="This is a Demo"/>

**Bait Group Details**

Select	Bait Group name	Control Type	Replicate
<input checked="" type="checkbox"/>	<a href="#">SecondBaitGroup</a>	<input type="text"/>	<input type="text" value="1"/>
<input checked="" type="checkbox"/>	<a href="#">FirstBaitGroup</a>	<input type="text"/>	<input type="text" value="1"/>

[Remove](#) [Add](#)

[Create](#) [Reset](#) [Cancel](#)

5. Set the Control Type for each Bait Group. If these are not controls, leave the Control Type blank.

6. Determine the number of replicates desired per Bait Group. Use the Percentage Filled statistic to help decide on replicate #, and to monitor the effect of changing the #.

7. Click **Create**



# Create the Library

## Review Library Details and Submit as Complete

### 1. Review the Library Details

If desired, replicate #s can be edited at this time

### 2. Determine the status for the Library

If the library is to be submitted, it must be set as Complete.

Status:

Draft  
▼  
Draft  
Review  
Complete

Home Libraries Bail Groups Baits My Account Application Type: TargetEnrichment Switch Application Type

Search Create Library Browse Library Notification Request for Quote

Edit Library: GP\_Demo\_Feb09

Library Name:	GP_Demo_Feb09	Length:	120	Number of Libraries:	1
Status:	Complete	Library Size:	1.185K Show Details	Total Number of Features:	57750
Folder:	Agilent_Marketing	Control Grid:	10-57750-1-V1_Hs_55K_TE_120	Number of Available Features:	16668
Species:	H. sapiens	Attachment:		Number of Agilent Controls:	70
Created By:	Demo User	Description:	Demo	Number of User Controls:	9
Created Date:	02/05/2009	Keywords:	Demo	Percentage Filled:	71.13766 %
Date Modified:	02/05/2009	Comments:	This is a Demo	Percentage Feature Occupied:	71.13766 %
Date Submitted:					

Bail Group Details

Select	Bail Group name	Control Type	Replicate
<input type="checkbox"/>	SecondUMGroup		1
<input type="checkbox"/>	FirstUMGroup		1

Previous Add

Save Reset Cancel

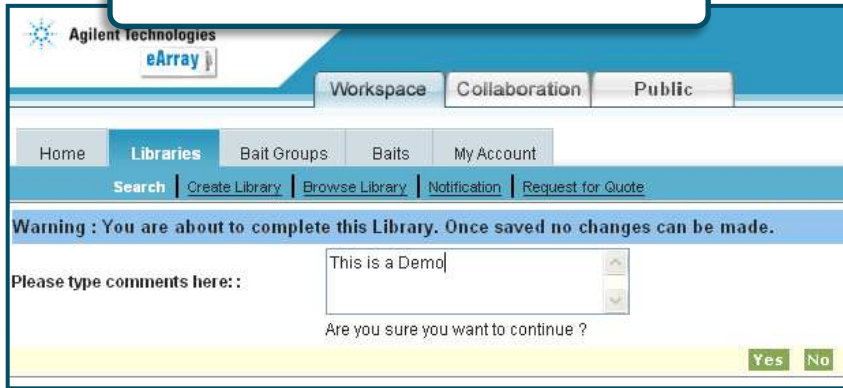
3. Click **Save**



# Create the Library

## Finalize Submission

### 1. Provide a comment and click **Yes**



Agilent Technologies  
eArray

Workspace Collaboration Public

Home Libraries Bait Groups Baits My Account

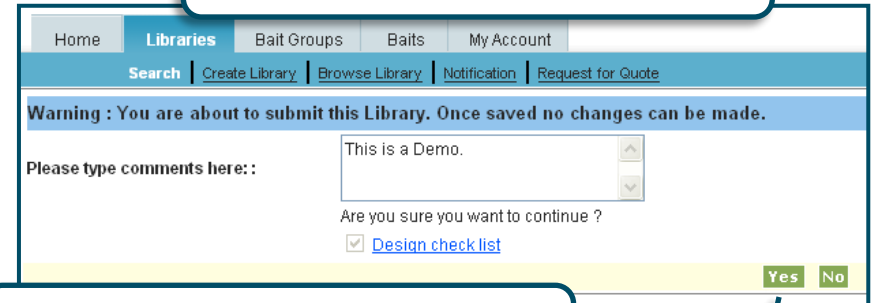
Search Create Library Browse Library Notification Request for Quote

Warning : You are about to complete this Library. Once saved no changes can be made.

Please type comments here: : This is a Demo

Are you sure you want to continue ? Yes No

### 2. Provide a comment in the next window and click on **Design check list**



Home Libraries Bait Groups Baits My Account

Search Create Library Browse Library Notification Request for Quote

Warning : You are about to submit this Library. Once saved no changes can be made.

Please type comments here: : This is a Demo

Are you sure you want to continue ?  
☒ Design check list

Yes No

### 3. Read and check off the Design check list, and click **Done**



Design check list

- ☐ I confirm that the information provided in this application is true and accurate.
- ☐ I confirm that the information provided in this application is true and accurate.
- ☐ I confirm that the information provided in this application is true and accurate.
- ☐ I confirm that the information provided in this application is true and accurate.
- ☐ I confirm that the information provided in this application is true and accurate.
- ☐ I confirm that the information provided in this application is true and accurate.
- ☐ I confirm that the information provided in this application is true and accurate.
- ☐ I confirm that the information provided in this application is true and accurate.
- ☐ I confirm that the information provided in this application is true and accurate.
- ☐ I confirm that the information provided in this application is true and accurate.
- ☐ I confirm that the information provided in this application is true and accurate.

Done Cancel

### 4. Click **Yes** to finalize the submission of the Library, making it available for getting a quote. This is not a kit order, this is only a submission so that the kit can be ordered.

# Generate a Quote

## Select Library

1. Select Browse Library on the [Libraries](#) page to find the Library

The screenshot shows the Agilent eArray application interface. The top navigation bar includes links for Home, Libraries, Experiment Groups, Baits, and My Account. The 'Libraries' link is highlighted. Below the navigation bar, there are tabs for Search, Create Library, Browse Library, and Request for Quote. The 'Browse Library' tab is active. The main content area is titled 'View Library List' and contains a table of libraries. The table has columns: Library Name, Folder Name, Status, Created Date, Length, and Actions. The library 'GP\_Demo\_Feb06' is selected, and the 'Quote' link in its Actions column is highlighted. A blue arrow points to the 'Quote' link.

Library Name	Folder Name	Status	Created Date	Length	Actions
Demo_BaitTiling_Library	Agilent_Marketing	Submitted	26-Jan-2009	120	<a href="#">View</a>   <a href="#">Quote</a>   <a href="#">Download</a>   <a href="#">Change Control Type</a>
Demo_BaitTiling_Library2	Agilent_Marketing	Submitted	26-Jan-2009	120	<a href="#">View</a>   <a href="#">Quote</a>   <a href="#">Download</a>   <a href="#">Change Control Type</a>
Demo_VVizard_Library	Agilent_Marketing	Submitted	05-Feb-2009	120	<a href="#">View</a>   <a href="#">Quote</a>   <a href="#">Download</a>   <a href="#">Change Control Type</a>
GP_Demo_Feb06	Agilent_Marketing	Submitted	06-Feb-2009	120	<a href="#">View</a>   <a href="#">Quote</a>   <a href="#">Download</a>   <a href="#">Change Control Type</a>

2. Click on **Quote**



# Generate a Quote

## Describe Order

The screenshot shows the 'Request for Quote' form in the Agilent Technologies eArray application. The form is divided into four main sections: Library Details, Quote Details, and Customer Details. The 'Quote Details' section contains input fields for Quantity, Reaction Size, Sequencing Technology, and Sequencing Protocol. The 'Customer Details' section contains fields for Workgroup Name, Company Name, and Company Number. At the bottom of the form are 'Next' and 'Cancel' buttons. Four numbered callouts are present: 1. Points to the 'Quantity' field. 2. Points to the 'Reaction Size' dropdown menu. 3. Points to the 'Sequencing Technology' dropdown menu. 4. Points to the 'Next' button.

**Agilent Technologies eArray**

Workspace Collaboration Public

Home Libraries Bait Groups Baits My Account

Search Create Library Browse Library Notification Request for Quote

**Request for Quote**

**Library Details**

Library Name: GP\_Demo\_Feb09  
ELID: 0228501

**Quote Details**

Quantity Info: 1  
Reaction Size Info: 50  
Sequencing Technology Info: Illumina  
Sequencing Protocol Info: end-sequencing

**Customer Details**

Workgroup Name: Agilent Technologies  
Company Name: Internal  
Company Number: Internal

Next Cancel

1. Determine the number of Libraries desired


2. Determine the number reactions per library:  
A reaction size of 50 means that a single Library can be used for capture with 50 DNA samples

3. Determine the sequencing technology and protocol

4. Click **Next**

# Generate a Quote

## Review and Submit Quote



Workspace Collaboration Public

Home Libraries Bait Groups Baits My Account

Search Create Library Browse Library Notification Request for Quote

### Request for Quote

Library Details	
Library Name:	GP_Demo_Feb09
ELID:	0228501
Part Number:	G3360C

Quote Details	
Quantity <a href="#">Info</a> :	1
Sequencing Protocol <a href="#">Info</a> :	end-sequencing
Sequencing Technology <a href="#">Info</a> :	Illumina(Optional 001)

Customer Details	
Workgroup Name:	Agilent Technologies
Company Name:	Internal
Company Number:	Internal

Request for Quote submission complete

Thank you. Your request for quote has been submitted. You will receive an email re-confirming this request for quote. You will also be contacted by an Agilent sales representative.

[Home](#)

es, Inc. 2002-2008

Your quote is placed successfully

[CLOSE](#)

[Print](#) [Cancel](#) [Edit Quote Request](#) [Submit](#)

[eArray Contact/Support](#) [eArray Terms of Use](#) [FAQ](#) © Copyright Agilent Technologies, Inc. 2002-2009

Click **Submit**