

HC70AL Summer 2014

Data Recording & Organization -

Introduction to the Webbook and Lab Blue Books

By

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August 4, 2014

**Webbook -
A Virtual Lab Notebook**

Webbook is a web lab notebook

Purpose/goal: To have access to experiments carried out by students, Lab members, etc... from anywhere. Also serves as a repository for protocols, stocks/reagents

Created by: Harry Hahn
Brandon Le
Bob Goldberg

<http://estdb.biology.ucla.edu/webbook>

Using the Webbook (Overview)

1. Username: email username
Password: 9-digit student id

2. An overview of the different sections

- Projects** - list of experiments
- Stocks** - catalog of stocks/reagent in the lab
- Protocols** - procedures carried out in the lab (pdf format)
- Calendar** - calendar to plan your experiments
- Browse** - search and look at lab members' experiments
- Contact** - email for help
- Logout** - will automatically logout if idle for 30 min

Webbook Login Page

The screenshot shows a web browser window titled "Welcome to Webbook" with the URL <http://estdb.biology.ucla.edu/webbook/>. The page features a navigation bar with links: Lab, Bioinformatics, Arabidopsis, Scholar, HC70A, Statistics Homepage, and Memoirs of ...earch Freak. On the right of the navigation bar are "Help" and "Login" buttons. The main content area has a "webBOOK Login" header. Below it, there are two input fields: "Username:" and "Password:". Two red arrows point from the text "Email username" and "9-digit Student ID" below the page to these respective input fields. A "Login" button is located to the right of the password field. At the bottom of the page, there is copyright information: "Last modified August 03 2003 21:16:09. Copyrighted by the University of California (2003) Created by Harry Hahn and Brandon Le, Laboratory of Bob Goldberg, UCLA".

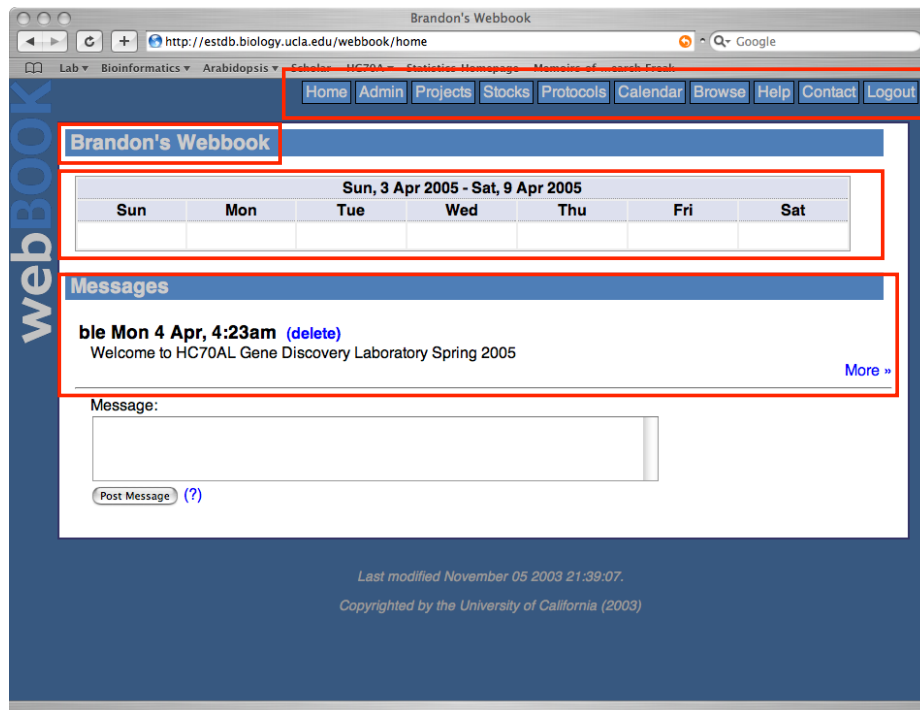
webBOOK Login

Username: Password:

Email username 9-digit Student ID

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Created by Harry Hahn and Brandon Le, Laboratory of Bob Goldberg, UCLA

Webbook Home Page



The screenshot shows the 'Brandon's Webbook' home page in a web browser. The browser's address bar displays 'http://estdb.biology.ucla.edu/webbook/home'. A navigation menu at the top includes links for Home, Admin, Projects, Stocks, Protocols, Calendar, Browse, Help, Contact, and Logout. Below the menu, the page title is 'Brandon's Webbook'. A calendar for the week of Sun, 3 Apr 2005 to Sat, 9 Apr 2005 is shown. The 'Messages' section features a message from 'ble Mon 4 Apr, 4:23am' with the text 'Welcome to HC70AL Gene Discovery Laboratory Spring 2005' and a 'More »' link. A 'Message:' input field and a 'Post Message (?)' button are also present. At the bottom, it states 'Last modified November 05 2003 21:39:07.' and 'Copyrighted by the University of California (2003)'.

Brandon's Webbook

Sun, 3 Apr 2005 - Sat, 9 Apr 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat

Messages

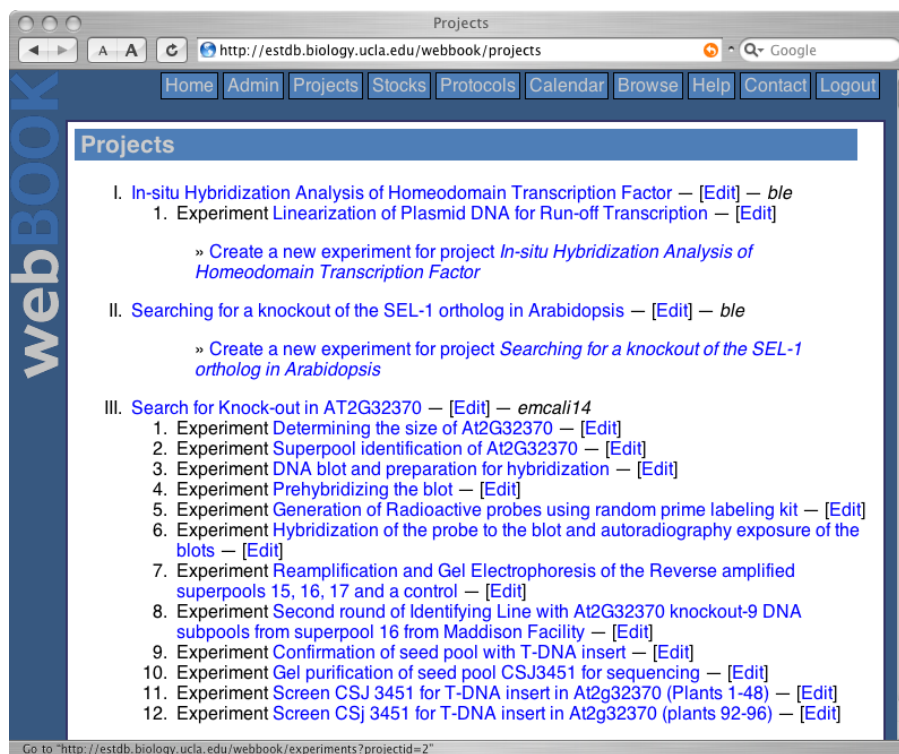
ble Mon 4 Apr, 4:23am [\(delete\)](#)
Welcome to HC70AL Gene Discovery Laboratory Spring 2005 [More »](#)

Message:

[\(?\)](#)

Last modified November 05 2003 21:39:07.
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Creating a Project



The screenshot shows the 'Projects' page in the Webbook. The browser's address bar displays 'http://estdb.biology.ucla.edu/webbook/projects'. The navigation menu is the same as the home page. The 'Projects' section lists three main projects, each with a list of experiments and links to edit them.

Projects

- I. [In-situ Hybridization Analysis of Homeodomain Transcription Factor](#) — [\[Edit\]](#) — *ble*
 - 1. Experiment [Linearization of Plasmid DNA for Run-off Transcription](#) — [\[Edit\]](#)
 - » Create a new experiment for project *In-situ Hybridization Analysis of Homeodomain Transcription Factor*
- II. [Searching for a knockout of the SEL-1 ortholog in Arabidopsis](#) — [\[Edit\]](#) — *ble*
 - » Create a new experiment for project *Searching for a knockout of the SEL-1 ortholog in Arabidopsis*
- III. [Search for Knock-out in AT2G32370](#) — [\[Edit\]](#) — *emcali14*
 - 1. Experiment [Determining the size of At2G32370](#) — [\[Edit\]](#)
 - 2. Experiment [Superpool identification of At2G32370](#) — [\[Edit\]](#)
 - 3. Experiment [DNA blot and preparation for hybridization](#) — [\[Edit\]](#)
 - 4. Experiment [Prehybridizing the blot](#) — [\[Edit\]](#)
 - 5. Experiment [Generation of Radioactive probes using random prime labeling kit](#) — [\[Edit\]](#)
 - 6. Experiment [Hybridization of the probe to the blot and autoradiography exposure of the blots](#) — [\[Edit\]](#)
 - 7. Experiment [Reamplification and Gel Electrophoresis of the Reverse amplified superpools 15, 16, 17 and a control](#) — [\[Edit\]](#)
 - 8. Experiment [Second round of Identifying Line with At2G32370 knockout-9 DNA subpools from superpool 16 from Maddison Facility](#) — [\[Edit\]](#)
 - 9. Experiment [Confirmation of seed pool with T-DNA insert](#) — [\[Edit\]](#)
 - 10. Experiment [Gel purification of seed pool CSJ3451 for sequencing](#) — [\[Edit\]](#)
 - 11. Experiment [Screen CSJ 3451 for T-DNA insert in At2g32370 \(Plants 1-48\)](#) — [\[Edit\]](#)
 - 12. Experiment [Screen CSJ 3451 for T-DNA insert in At2g32370 \(plants 92-96\)](#) — [\[Edit\]](#)

Go to <http://estdb.biology.ucla.edu/webbook/experiments?projectid=2>

Creating a Project

The screenshot shows a web browser window with the URL <http://estdb.biology.ucla.edu/webbook/projects?mode=edit>. The page title is "Projects". On the left, there is a vertical sidebar with the text "webBOOK". The main content area is titled "Create Project record". Below this title, a note states: "Fields marked with a red asterisk (*) are **REQUIRED**". There are three input fields, each with a red asterisk: "Title of project*", "Question being asked*", and "Summary*". Each field is represented by a text box with a vertical scrollbar. Below the input fields, a paragraph reads: "Once you've created a project record, you may edit it to associate genes, references, and experiments to the project." At the bottom of the form is a "Create" button. The footer of the page includes the text: "Last modified August 03 2003 21:16:09." and "Copyrighted by the University of California (2003)".

Creating a Project

The screenshot shows a web browser window with the URL <http://estdb.biology.ucla.edu/webbook/projects>. The page title is "Projects". The main content area displays a list of experiments. A red rectangular box highlights a specific section of the list. The experiments listed are:

- 7. Experiment RT-PCR — [Edit]
- » Create a new experiment for project *The AT4G37790 Gene in the Arabidopsis Plant: Identifying a Knockout*
- XXX. Knockout Identification in AT5G03220 — [Edit] — *sans_sens7*
- 1. Experiment (3) Gel Electrophoresis of AT5G03220 Gene Specific PCR Product — [Edit]
- 2. Experiment (4) Negatively Controlled Gel Electrophoresis Repetition Expt. for AT5G03220 — [Edit]
- 3. Experiment (2) Accuracy and Precision: Dilution Expt. — [Edit]
- 4. Experiment (1) Micropipetting Exercise — [Edit]
- 5. Experiment (5) Forward Primer Gel Blot AT5G03220 — [Edit]
- 6. Experiment (6) Reverse Primer Blot AT5G03220 — [Edit]
- 7. Experiment (7,8,9) Forward and Reverse Blot Washes, Autoradiography, and Identification of Gene-Specific Knockout Lines — [Edit]
- 8. Experiment (11) Gel Purification of Superpools #1 and #2 — [Edit]
- 9. Experiment (10) Reamplification of Superpool #1, 2, and 3 DNA PCR Product — [Edit]
- 10. Experiment (13) Big Dye Sequencing Reaction with Superpools #1 and 2 (Trial 1) — [Edit]
- 11. Experiment (14) Two Repetitions of Big Dye Experiment for Retry at Sequencing — [Edit]
- 12. Experiment (12) Sowing Seeds of Arabidopsis Thaliana — [Edit]
- 13. Experiment (15) RNA Work--Isolation and Fractionation of RNA found in Scarlet Runner Bean Flower and Leaf — [Edit]
- 14. Experiment (16) RNA Work with DNase--Isolation and Fractionation of RNA found in Scarlet Runner Bean Flower and Leaf — [Edit]
- 15. Experiment (17) Synthesis of cDNA for RT-PCR and Fractionation Analysis of Products on Gel Electrophoresis — [Edit]
- 16. Experiment (18) Gene Chip Analysis of mRNA Activity in Arabidopsis thaliana — [Edit]
- 17. Experiment (19) DNA Pool Screening for T-DNA Insertion Candidates--Round 2 — [Edit]
- 18. Experiment (20) Isolation of Genomic DNA from SALK Plants — [Edit]
- 19. Experiment (21) Gel Purification and of DNA Pool #6 for Sequencing — [Edit]
- 20. Experiment (22) PCR Analysis of DNA Isolated from First Harvest from SALK 109178 Plant Candidates — [Edit]
- 21. Experiment (23) Collection of DNA from Next Harvest Round, Dilution and Genotypic Analysis — [Edit]
- 22. Experiment (24) Genotyping PCR-Gene Specific and T-DNA — [Edit]
- » Create a new experiment for project *Knockout Identification in AT5G03220*
- XXXI. Knockout Identification in Arabidopsis Gene AT2G37120 — [Edit] — *jziskind*
- 1. Experiment Gel Electrophoresis of Gene-Specific PCR Product (3) — [Edit]
- 2. Experiment Micropipetting Exercise (1) — [Edit]
- 3. Experiment Dilution Experiment (Accuracy and Precision) (2) — [Edit]

Creating a Project

The screenshot shows a web browser window with the URL <http://estdb.biology.ucla.edu/webbook/projects?id=9>. The page title is "Projects". A navigation bar at the top includes links: Home, Admin, Projects, Stocks, Protocols, Calendar, Browse, Help, Contact, Logout. The main content area is titled "Project Search for knockout in Mel 26 — [Edit]".

Owner	emcali14
Question being asked:	What is the mutant phenotype that results from disrupting the transcription factor, Mel 26, in the Arabidopsis genome?
Summary	A transcription factor gene is isolated from the Scarlet Runner Bean genome that is active in the formation and activities of the embryo proper. This gene is isolated using ESTs and then cloned in a cDNA library. The gene is then sequenced, and the Arabidopsis genome is scanned to find the homolog for the Mel 26 gene. Once the Arabidopsis homologous sequence is identified, lines of Arabidopsis knock-outs are screened from superpools obtained from the Maddison Facility in Wisconsin. Autoradiography is used to expose a radioactive probe of the gene that hybridizes to the knockout fragment containing the Mel 26 gene. This fragment is then sequenced, and the specific line containing the knock-out is identified. This line can then be studied to determine the mutant effects, which in turn indicates the function of the gene in the developing embryo.
Experiments associated with this project:	<ol style="list-style-type: none">1. Determine the Length of Mel 26 gene in Arabidopsis Genome2. PCR amplification of Mel26 in Arabidopsis genome3. Gel Electrophoresis of 30 superpools to determine a line with a knockout Mel264. DNA blot and transfer to nitrocellulose paper5. Prehybridizing the blots6. Generate Radioactive probes using random prime labeling kit7. Hybridization of the probe to the blot and autoradiography exposure of the blots8. Reamplification of FW Superpools 7, 8, 9 of Mel-26

Below the table, there are three links in a red box:

- » Enter an experiment for this project
- » Enter a gene for this project
- » Enter a reference for this project

Entering Gene Information

The screenshot shows a web browser window with the URL <http://estdb.biology.ucla.edu/webbook/genes?projectid=2>. The page title is "Genes". A navigation bar at the top includes links: Home, Admin, Projects, Stocks, Protocols, Calendar, Browse, Help, Contact, Logout. The main content area is titled "Create gene".

Fields marked with a red asterisk (*) are **REQUIRED**

Gene Name:*	<input type="text"/>
Species:	<input type="text"/>
Sequence:	<input type="text"/>
Sequence Type:*	<input type="text" value="-- Select --"/>
Amino Acid Sequence:	<input type="text"/>
Chromosome:	<input type="text"/>
EST Data:	<input type="text"/>
Functional Category:	<input type="text"/>
Promoter:	<input type="text"/>
Domains:	<input type="text"/>
Hits:	<input type="text"/>

Entering Gene Information

Domains:	<input type="text"/>	
Hits:	<input type="text"/>	
Attach a file:	Title:	<input type="text"/>
	File:	<input type="button" value="Choose File"/> no file selected
	Description:	<input type="text"/>
	<small>All files must have a file name extension. Images must end in .jpg, .png, or .gif. Additional files can be attached by later editing this record.</small>	

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Entering Experiments Information

Experiments

[Home](#) [Admin](#) [Projects](#) [Stocks](#) [Protocols](#) [Calendar](#) [Browse](#) [Help](#) [Contact](#) [Logout](#)

webBOOK

Experiments

Fields marked with a red asterisk (*) are **REQUIRED**

Title:*	<input type="text"/>	
Goal:*	<input type="text"/>	
Background Info:*	<input type="text"/>	
Approach:*	<input type="text"/>	
Controls:*	<input type="text"/>	
Discussion:	<input type="text"/>	
Next:	<input type="text"/>	
Materials	Primer *	Seed *
	<input type="text"/> <small>AT2G22800-FW AT2G22800-RV AT2G23290-FW AT2G23290-RV AT2G37120-FW</small>	<input type="text" value="SALK_123942"/>

Entering Experiments Information

Experiments

http://estdb.biology.ucla.edu/webbook/experiments?projectid=2

AT2G22800-FW
AT2G22800-RV
AT2G23290-FW
AT2G23290-RV
AT2G37120-FW
AT2G37120-RV
AT3G09735-FW
AT3G09735-RV

SALK_123942

Protocols: **Protocols ***

*Sequencing Using SPPCR
Alkali Lysis Plasmid Isolation
Arabidopsis Tissue Harvest For GeneChip Experiment
Bacteria Chromosome Mini-Prep
Bacterial Competent Cell Preparation
Bacteriophage

Attach a file: **Title:**

File: no file selected

Description:

All files must have a file name extension. Images must end in .jpg, .png, or .gif. Additional files can be attached by later editing this record.

* To select multiple options, use Control-click (Windows) or Command-click (Macintosh). This can be used to de-select an item as well.

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Entering Experiments Information

Experiments

http://estdb.biology.ucla.edu/webbook/experiments?id=75

Experiments

Experiment Gel Electrophoresis of Gene Specific PCR Product -- [Edit]

Created: 2004-04-08 18:10:14 by gisela

Last modified: 2004-06-08 12:33:19

Goal: To determine the size of the gene specific PCR product.

Background: 1. PCR was done beforehand by this.

Approach: 1. Carry out gel electrophoresis.
2. Plot results on semi-log paper.

Controls: H/R

Discussion: 1. Results plotted on semi-log paper show the approximate size of the PCR product to be about 1400 bps.
2. Actual size of gene AT3G50060 is 1135 bps and considering the length of the primers, the size of the PCR product should be 1496 bps.
3. The difference can possibly be attributed to the inaccuracy of standard curve graphs because it is a best fit line and not precise.

Next: Carry out PCR experiment

Stocks:

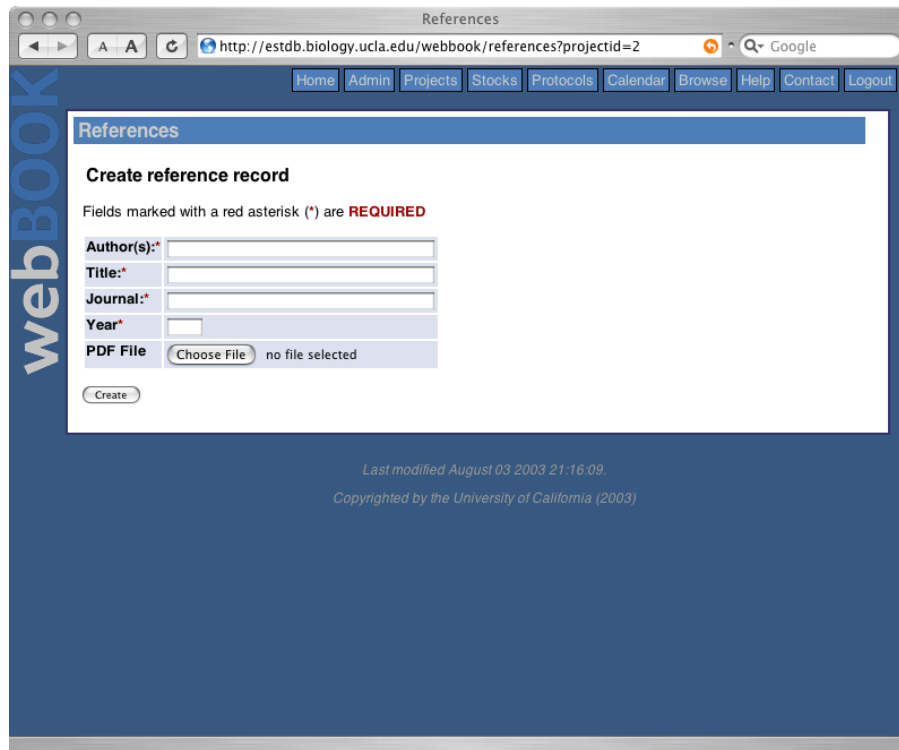
Protocols: HC70AL - WK01 - Gel Electrophoresis

Gel Electrophoresis of Gene At3g50060 PCR Product

04/06/04
105 Volts; Time: 1 hr
Sample 1 and 2: PCR product (gene At3g50060 + primers)

1
k
b
S
a
m
p
l
e
L
a
d
d
e
r
1
2

Entering References Relating to the Gene



References

Create reference record

Fields marked with a red asterisk (*) are **REQUIRED**

Author(s):*

Title:*

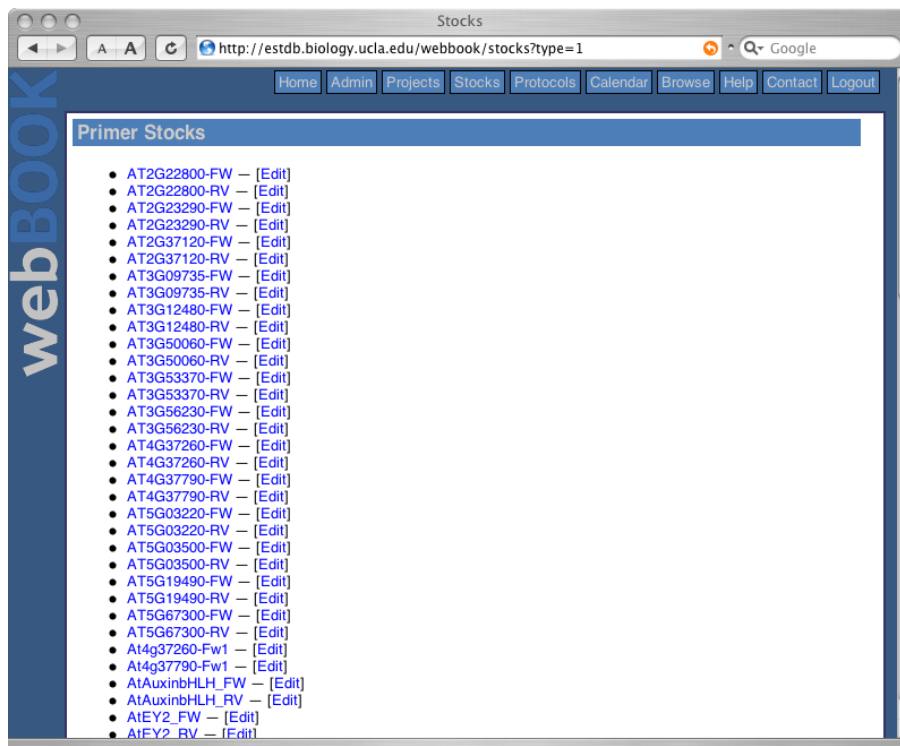
Journal:*

Year*

PDF File no file selected

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Lab Stocks

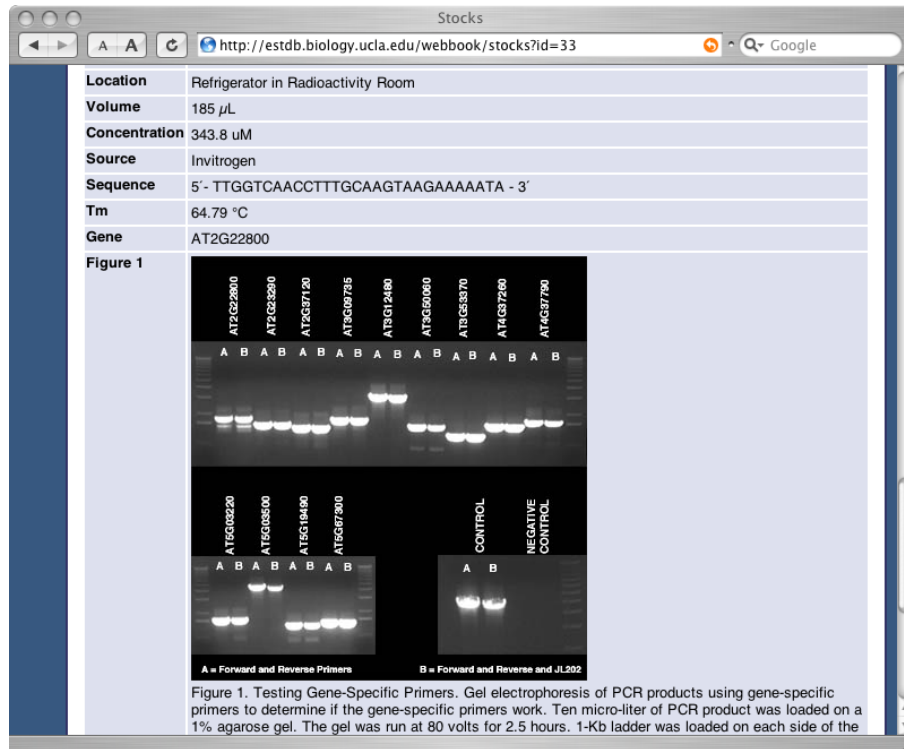


Stocks

Primer Stocks

- AT2G22800-FW — [Edit]
- AT2G22800-RV — [Edit]
- AT2G23290-FW — [Edit]
- AT2G23290-RV — [Edit]
- AT2G37120-FW — [Edit]
- AT2G37120-RV — [Edit]
- AT3G09735-FW — [Edit]
- AT3G09735-RV — [Edit]
- AT3G12480-FW — [Edit]
- AT3G12480-RV — [Edit]
- AT3G50060-FW — [Edit]
- AT3G50060-RV — [Edit]
- AT3G53370-FW — [Edit]
- AT3G53370-RV — [Edit]
- AT3G56230-FW — [Edit]
- AT3G56230-RV — [Edit]
- AT4G37260-FW — [Edit]
- AT4G37260-RV — [Edit]
- AT4G37790-FW — [Edit]
- AT4G37790-RV — [Edit]
- AT5G03220-FW — [Edit]
- AT5G03220-RV — [Edit]
- AT5G03500-FW — [Edit]
- AT5G03500-RV — [Edit]
- AT5G19490-FW — [Edit]
- AT5G19490-RV — [Edit]
- AT5G67300-FW — [Edit]
- AT5G67300-RV — [Edit]
- AT4g37260-Fw1 — [Edit]
- AT4g37790-Fw1 — [Edit]
- ATAuxinbHLH_FW — [Edit]
- ATAuxinbHLH_RV — [Edit]
- AtEY2_FW — [Edit]
- AtEY2_RV — [Edit]

Lab Stocks



Lab Protocols

Protocols

http://estdb.biology.ucla.edu/webbook/protocols

Home Admin Projects Stocks Protocols Calendar Browse Help Contact Logout

Select a category of protocols to display: All View

Create protocol

Protocol Name:

Category:

File: Choose File no file selected

File type:

Create

webBOOK

DNA
RNA
Plant Tissue Culture
Knockout
GeneChip
Microscopy
Computer

Last modified A
Copyrighted by the U

Lab Protocols

Protocols

Select a category of protocols to display:

- Flowchart for DNA Blot Hybridization — [\[Edit\]](#)
- HC70AL - WK01 - Dilution Experiment — [\[Edit\]](#)
- HC70AL - WK01 - Gel Electrophoresis — [\[Edit\]](#)
- HC70AL - WK01 - Micropipetting Exercise — [\[Edit\]](#)
- HC70AL - WK01 - PCR — [\[Edit\]](#)
- HC70AL - WK02 - DNA Blot — [\[Edit\]](#)
- HC70AL - WK02 - Gel Electrophoresis — [\[Edit\]](#)
- HC70AL - WK03 - Southern Hybridization — [\[Edit\]](#)
- HC70AL - WK03 - Washing Blot & Autoradiogram — [\[Edit\]](#)
- HC70AL - WK04 - Gel Purification — [\[Edit\]](#)
- HC70AL - WK04 - Identifying Superpool — [\[Edit\]](#)
- HC70AL - WK04 - PCR Amplification of Superpool — [\[Edit\]](#)
- HC70AL - WK04 - Sequencing and Analysis — [\[Edit\]](#)
- HC70AL - WK04 - Sowing Seeds — [\[Edit\]](#)
- HC70AL - WK05 - DNase Treatment — [\[Edit\]](#)
- HC70AL - WK05 - RNA Gel — [\[Edit\]](#)
- HC70AL - WK05 - RNA Isolation — [\[Edit\]](#)
- HC70AL - WK06 - RT-PCR — [\[Edit\]](#)
- HC70AL - WK06 - cDNA Synthesis — [\[Edit\]](#)
- HC70AL - WK07 - Genomic DNA Isolation — [\[Edit\]](#)
- HC70AL - WK07 - Identify Plants with T-DNA Insertion — [\[Edit\]](#)
- HC70AL - WK07 - Identifying DNA Pool (Round Two) — [\[Edit\]](#)
- HC70AL - WK07 - PCR Amplification — [\[Edit\]](#)
- HC70AL - WK08 - Gel Purification — [\[Edit\]](#)
- HC70AL - WK08 - Genotyping T-DNA Tagged Plants — [\[Edit\]](#)
- HC70AL - WK08 - Sequencing & Analysis — [\[Edit\]](#)
- Knockout Guidelines — [\[Edit\]](#)

Create protocol

Protocol Name:

Calendar & Scheduling

Calendar

« Mon, 4 Apr 2005 »

Before 7AM	
07:00 AM	
08:00 AM	
09:00 AM	
10:00 AM	
11:00 AM	
12:00 PM	
01:00 PM	
02:00 PM	Water plants sowed last week
03:00 PM	
04:00 PM	
05:00 PM	
06:00 PM	
After 7PM	

« April 2005 »

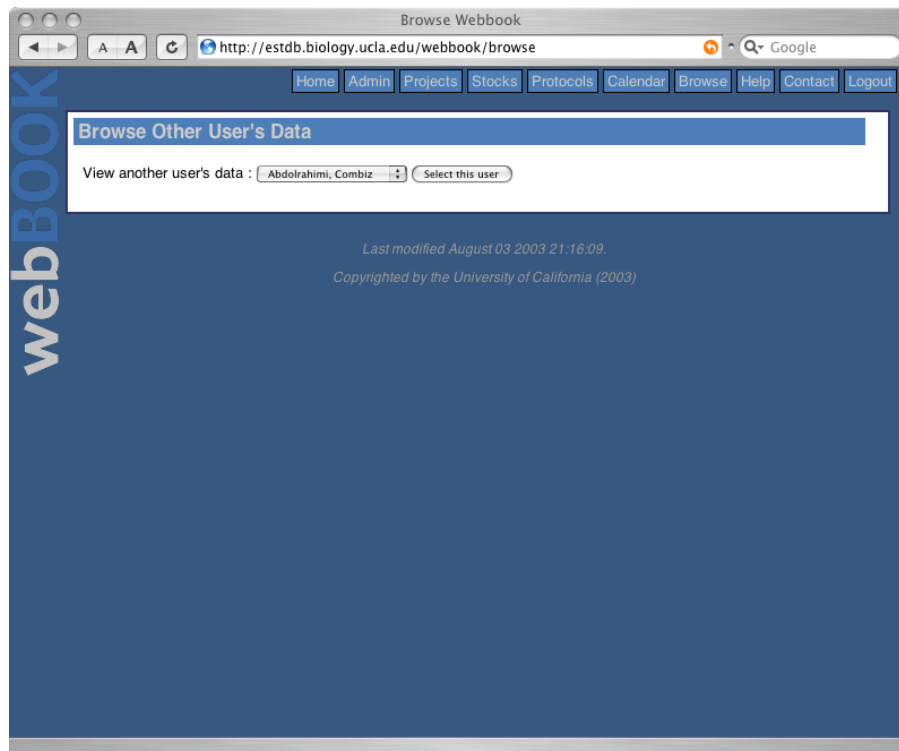
				1	2
3	4	5	6	7	8
10	11	12	13	14	15
17	18	19	20	21	22
24	25	26	27	28	29
30					

Schedule an event

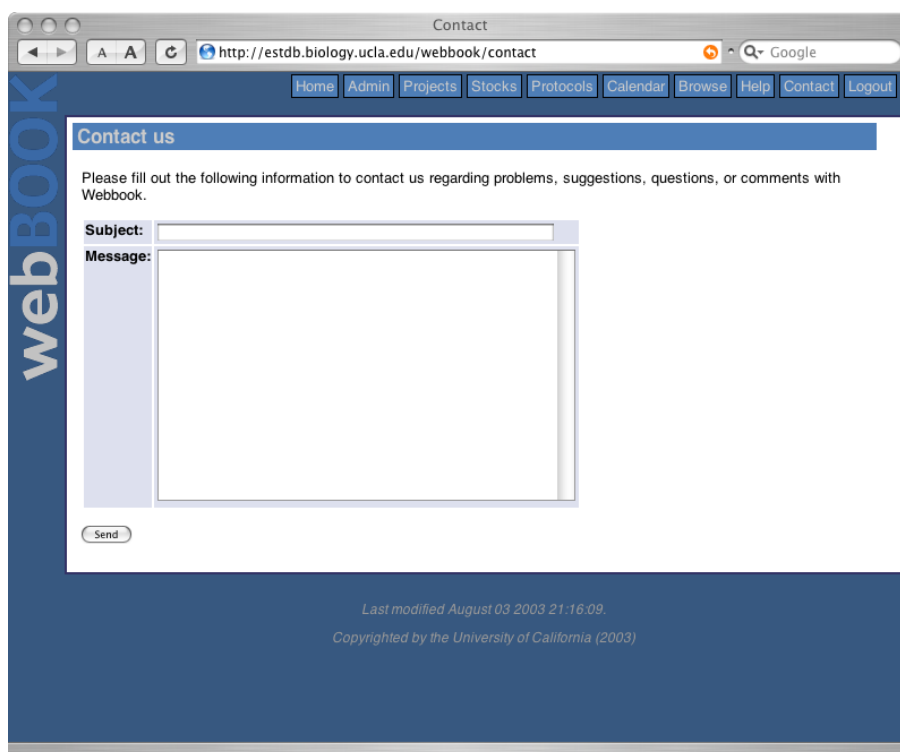
April 4, 2005 2 pm :00

Enter description of event below:

Browsing Work from Lab Members



Help / Problems / Suggestions



Accessing Images and Data Files

Gel images and microscope pictures
will be available for download at:

<http://estdb.biology.ucla.edu/hc70a1>

Login Username: hc70a1

Password: arabidopsis