Udvadia Mouse Colony Database

This database allows the Udvadia lab to keep track of all mice, past and present. Due to the constraints of the program certain aspects such as Breeding, Creating a Litter and Weaning are done through imaginary cages that are kept in the database, but are not technically specified in our actual colony. For detailed instructions on how to perform these actions within the database, see Section 3.

The Home Screen

Mouse Database

Strains

Mice ⊕

Breeding Cages ⊕

Holding Cages ⊕

Litters

Wean List

Weaning Cages

Search

Enter an Item ID:

[   ]

Tags ▾

URL: http://mousedb-mrr.rhcloud.com

Logging in:
A username and password will be assigned. Assigned passwords can be changed.
If you forget your password, please speak to your administrator to have it reset.

SECTION 1: THE HOME SCREEN
The Home Screen:
The Home Screen features all the links necessary to view the colony and to preform maintenance. Here is a general overview of each of the links.

Strains:
Clicking **Strains** will display all the strains in our colony. For the purposes of this program Strain actually refers to the genotype of the mouse and is not uniform. For an individual mouse, the Genotype field is reserved for entering if the mouse is homozygous or heterozygous for certain strains, See Section 2.
- **Creating a New Strain**
  Click Strain → New Strain → Enter strain name into Strain ID → Save
  - Strain ID must be entered, any other information may be filled in if available.

Mice:
Clicking **Mice** will display all the mice in the colony, past and present. The mice can be sorted by clicking on any of the column headers.
- **Creating a New Mouse**
  Click Mice → New Mouse → Enter Mouse ID → Save
  - Shortcut: Click the ⊕ next to Mice
  NOTE: Creating a mouse through the home screen is reserved for ADULT mice entering our colony or mice that do not have parents within our colony. New mice that have been born in our colony MUST be added through their litter. (See Section 3 "Creating a New Litter")

- **Viewing individual mice and mice sorted by column**
  ○ Clicking on a **Cage ID** will show all mice currently in that cage as well as a history of mice that have been in that cage.
  ○ Clicking on a **Mouse ID** will show all the information on that individual mouse including its DOB, strain, the current cage it is in, the litter it was born in, its parents and any comments.
    ▪ See Section 2 "Understanding the Mouse ID Screen" for more information about the fields.
  ○ Clicking on a **Strain ID** will only show the information entered for that particular strain.

Breeding Cages:
Clicking **Breeding Cages** will display a representation of the breeding cages in our colony. There is one breeding cage for each strain. These cages serve as an intermediate step for creating and weaning new litters of mice into our colony.
- **Creating a New Breeding Cage**
  Click Breeding Cages → New Breeding Cage → Enter Cage ID → Save
    Shortcut: Click the ⊕ next to Breeding Cages

Holding Cages:
Clicking **Holding Cages** will display all the cages currently in our colony. These represent actual cages in the colony and are numbered accordingly.

- **Creating a New Holding Cage**
  Click Holding Cages → New Holding Cage → Enter Cage ID → Save
  - Shortcut: Click the ⊕ next to Holding Cages
  - New cages can be created as needed. In order to prevent confusion, holding cages should not be removed from the database once they are made, even if they are empty.
  - In addition to the numbered cages there are 2 labelled cages, Sacrificed and Dissected, that do not exist in our colony, but act as a place to sort out deceased mice from the active cages.

Litters:
Clicking **Litters** will display all the litters born in our colony, their DOB, the number of pups and their date of wean (DOW).

- **Creating a New Litter** is an action that can only be done through the breeding cages. See Section 3 "Creating a New Litter"

Wean List:
Clicking **Wean List** will display litters that need to be weaned in the upcoming week. Due to the nature of the program, it is helpful to check the box that says "Include weaned litters" when searching the wean list.

- Please refer to the **Events Calendar** as a better way to keep updated on the litters that need to be weaned in our mouse colony. Days that are highlighted in green indicate that a litter needs to be weaned. Clicking on the highlighted day will display the litter.

Weaning Cages: We do not use this page currently.
Clicking on **Weaning Cages** will display a list of all the weaning cages created through the breeding process. The weaning cages are imaginary and serve as an intermediate step for creating and weaning new litters of mice into our colony.

Search:
Click on **Search** to create specialized lists of mice based on certain parameters. Alternatively you can also perform a fast search by entering an Item ID into the search box on the home screen or choosing a tag from the tag drop-down box.

- **Performing a Search**
  Click **Search** → Choose the type of search (Mouse is the most commonly used) → Choose the fields that best fit your search and enter the information → Choose your output columns (These are the column headers that will be displayed) → Search
  - **Other options**
    - If you want to **SAVE** this search: Title the search → fill in your parameters → Save
      This will allow you to perform this search again without having to fill everything in.
    - If you want to **EXPORT** this search: Fill in your parameters → Export → Check the 2 export options that pop up → Export
      This will export your search to Excel providing you with a spreadsheet based on your parameters that is directly linked to the database. Clicking on mice within the spreadsheet will open up that mouse in the database automatically.
- **Performing a Fast Search**
  Fast searches can be performed by entering a mouse number, breeding cage ID, holding cage number or strain ID into the search box on the home screen.
- **Searching via Tags**
  Currently tags are used to indicate the color of a mouse. Clicking on the desired color will display all mice that are that color.

Mouse Database   **See below for description**

Welcome, mreplogle| Log Out | Settings

Last modified 17-Aug-12 10:22 pm by you

Home Screen Links

Strains
Mice ●
Breeding Cages ●
Holding Cages ●
Litters
Wean List
Weaning Cages
Search

Enter an item ID:

[   ]

[Tags ▾]

Mouse 387

Mouse ID
[387] [🔒]
Sex
○ Male ● Female
☑ Alive
Status
[Possible plug ▾]
Born on
[06-Jun-2012]
Weaned on
[20120703]
Terminated on
[   ]
☐ Is chimera

[Save]

Strain
[Wnt1-Cre/YPF/ROSA ▾]   ➪ **Strain ID for this individual mouse**
Genotype
[▾]   ➪ **Use this dropbox to specify if the strain is homozygous or heterozygous**
Generation
[▾]
Protocol
[▾]
Ear mark
[6/19/12 ▾]   ➪ **Date the mouse was earmarked**
Chip Number
[   ]
PCR on
[19-Jun-2012]   ➪ **Date the PCR was performed**

For Sacrificing or Dissecting a mouse ⇐ [Sacrifice] Move to cage [▾] [Transfer] ➪ **For transferring the mouse to a different cage**

From litter Wnt1-Cre/YFP f/f x ROSA - Litter 1 ➪ **Litter the mouse was born in, click to see littermates**

Parents

Parents for this mouse ⇐

Mouse	Sex	Alive	Strain	Min/MaxP	Genotype	DOB	Wks	Gen
287	F	N	ROSA			22-Dec-11	34.4	
415, Lost Tag	M	N	Wnt1-Cre/YFP f/f			02-Jan-12	32.9	

Current cage Cage 16 ➪ **Cage this mouse is currently in, click to see other mice in this cage**

Cage transfers

A history of all the cages this mouse has been in ⇐

On	From	To	Reason	User	
03-Jul-12	Wnt1-Cre	Wnt1-Cre/YFP f/f x ROSA - Litter 1:F:2/3	to wean cage	mreplogle	[Edit]
06-Aug-12	Wnt1-Cre/YFP f/f x ROSA - Litter 1:F:2/3	Cage 15		mreplogle	[Edit]
06-Aug-12	Cage 15	Cage 5		mreplogle	[Edit]
11-Aug-12	Cage 5	Cage 16		mreplogle	[Edit]
11-Aug-12	Cage 16	Cage 5		mreplogle	[Edit]
17-Aug-12	Cage 5	Cage 16		mreplogle	[Edit]

Current, active tags ⇐ Tags: [Brown ▾] [▾] [Tag] ➪ **Add new tags using this dropbox and clicking Tag**

You said on 17-Aug-12 10:23 pm: [Edit] [Delete...]
    8/17/12- Moved to Cage 16 to mate with 370, Weight: 0.053lb

You said on 11-Aug-12 9:24 pm: [Edit] [Delete...]
    7/31/12 - Moved to Cage 5, possibly plugged

You said on 11-Aug-12 9:23 pm: [Edit] [Delete...]
    7/3/12 - Moved to Cage 16

Comments can be added here

Add Comment

[   ]

Mouse 387

Mouse ID – This can be changed by
clicking on the lock and then <u>saving</u>

Mouse ID

387 🔒

Sex

Alive – indicates if the
mouse is alive or not

○ Male ● Female

☑ Alive

Sex – This is set when the litter is created and can not
be changed.

Status

Possible plug ▾

Status – Indicates the status of certain mice in order to
identify them faster. Anything can be written in the
drop-down box.

Date of birth – This is set
when the litter is created
and can not be changed.

Born on

06-Jun-2012

Weaned on

20120703

Date of Wean – This is set when the litter
is weaned and can not be changed.

Terminated on

Date the mouse was terminated

☐ Is chimera

Save

SAVE – All changes must be saved in order to take affect!!!
Be sure to save all your changes before leaving the page.

Commonly used actions from the Mouse ID screen

- **Changing the Mouse ID:** Click the lock → change the ID/rename the mouse → SAVE

- **Changing the Status:** Write a new status OR choose a previously written status → SAVE
  ○ Possibly plugged → this mouse was recently plugged for breeding or dissection. Weight should be checked and recorded.
  ○ Breeding → this status is reserved for mice that have been temporarily moved into a Breeding Cage within the database so that a litter can be created. It is to prevent confusion as the mouse will not be in the Holding Cage it is supposed to be in until moved out.
  ○ Sacrificed → this status is reserved for mice that have been sacrificed
  ○ Dissected → this status is reserved for mice that have been dissected

- **Choosing a Strain ID and/or Genotype:** Choose the strain and/or genotype from the drop-down box once the PCR has been performed → SAVE
  ○ In order for a strain to be seen in the drop-down box it must be first created through the Strain link on the Home Screen.
  ○ Genotypes can be chosen from the drop-down box or written in as needed.

- **Transfer a Mouse to Another Cage:** Choose the desired cage from the drop-down box → click Transfer → Add a comment → SAVE
  ▪ You can move a mouse to another Holding Cage, to a Breeding Cage or into the Sacrificed or Dissected "cage".
  ▪ NOTE: Comments should be added every time you move a mouse, even though the database keeps track of the move. Please add reasons why mice were moved *especially* if they are moved to mate with another mouse. This will help to determine who the parents are, should the mouse have a litter later on.

- **Sacrificing a Mouse:** Click Sacrifice (this will automatically uncheck the Alive box, change the Status to sacrificed and enter the Termination Date) → Transfer the mouse to the Sacrificed cage → Add a comment if necessary → SAVE

- **Dissecting a Mouse:** Click Sacrifice → change the Status to Dissected → Transfer the mouse to the Dissected cage → Add a comment → SAVE

SECTION 3: BREEDING, CREATING A LITTER, GENOTYPING AND WEANING
Understanding the Breeding Cage Screen

Home Screen Links

Mouse Database

Strains

Mice

Breeding Cages

Holding Cages

Litters

Wean List

Weaning Cages

Search

Enter an item ID:

Tags ▼

Breeding Cage Sox9-Cre

Cage ID – This can be changed by clicking on the lock and then saving.

Welcome, mreplogle| Log Out | Settings

Last modified 06-Aug-12 3:45 pm by you

Cage ID

Sox9-Cre 🔒

☑ Active (deactivating will kill all breeders)

Set Up On

20120806

Breeding Type
Breeder

Mating Type
Trio

Protocol

Use this drop box to choose the Breeding Type and Mating Type that matches your breeding scenario.

Save   Delete...   **SAVE – All changes made above must be saved in order to take affect!!!**

There are no breeders present in this cage   **Mice currently in this cage would show up here**

Move mouse [dropdown] to this cage Transfer   **Use this dropbox to transfer mice to this cage**

Create new litter...   **Click here to create a new litter.**

Litters born in this cage

Litter	DOB	Born	Alive	Total Females	Total Males	DOW
Sox9-Cre- Litter 1	04-May-12	6	0	0	0	11-Aug-12
Sox9-Cre- Litter 2	25-May-12	9	0	0	0	11-Aug-12
Sox9-Cre- Litter 3	19-Jun-12	2	2	1	1	16-Jul-12
Sox9-Cre- Litter 4	22-Jun-12	7	7	2	5	16-Jul-12
Sox9-Cre x YFP - Litter 5	09-Jul-12	10	10	5	5	06-Aug-12

A history of all the litters that have been born in this breeding cage.

Cage transfers

Mouse	On	From	To	Reason	User	
599	08-Aug-12	*here*	Sox9 Floxed		mreplogle	Edit
599	11-Aug-12	Sox9 Floxed x YFP Floxed	*here*		mreplogle	Edit
No Tag Sox9-Cre (F)	11-Aug-12		*here*		mreplogle	Edit

History of all the mice that have been moved in and out of this breeding cage.

Tags: [dropdown] Tag

Add Comment

Add Comment

Commonly used actions from the Breeding Cage screen
- **Establishing the Breeding Type and Mating Type**
  - Pick the options that are representative of the breeding scenario → SAVE
    - Breeding type: *Breeder* is used when there is one male and one female. *Female Rotation* is used if there is one male and two or more females. The other options are not currently used.
    - Mating Type: *Pair* is used when there is one male and one female in the breeding cage. *Trio* and *Quad* would be used when there were 3 or 4 mice in the breeding cage. The other options are not currently used.

- **Transferring mice to the Breeding cage**
  - Select mouse to move into the cage through the drop-down box → Click Transfer
    - Note: Transferring to the Breeding Cage can also be done from the Mouse ID screen, See: "Transfer a Mouse to Another Cage"

- **Creating a New Litter** → New litters should be created as soon as new pups are found
  - Determine the parents → this can be done by looking through the comments of the potential mother in order to determine who she mated with
  - Change Breeding Type and Mating Type to the appropriate options See: "Establishing the Breeding Type and Mating Type"
  - SAVE
  - Transfer the parents to the Breeding Cage assigned for their general strain
    - Note: Remember the cage the parents came from as you will have to put them back
  - Click **Create New Litter...**
  - Enter the Litter ID (Female Strain x Male Strain + Litter number for that cage)
  - Enter Born On date
  - Enter a number for the Total Pups and Alive Pups
  - SAVE
  - Add comment indicating the cage the litter is in
  - Click on Breeding Cage link to go back to the parent's breeding cage
  - Transfer the parents back to where they came from by clicking on each mouse and transferring them from the Mouse ID screen
  - Go back to the breeding cage the parents were in and click Unassign the stud

Earmarking, Genotyping and Weaning → In order to assign a pup a Mouse ID, Strain ID and Genotype the litter must be weaned in the database. Usually this is done after the pups have been earmarked and a PCR has been run on their tails, approximately 12-13 days after the litter is born. The actual weaning of the mice will take place when the mice are 3-4 weeks old.

- **Earmarking and Genotyping a New Litter**
  - Click **Litters**
  - Find the litter you ran the PCR on
  - Confirm or change the projected Weaned On date → The date in the box is a suggested date of wean calculated by the program. It is 3 weeks from the litter's date of birth.
    - This Date of Wean will automatically show up on the Events Calendar as a reminder that the actual weaning will need to be done in the future.
  - Enter the number of Total Females and Total Males, the program will fill in the rest
  - Click **Wean** → This will assign a Weaning ID and a Weaning Cage to each pup, which we do not use. The appropriate changes can be made by following the directions below.
  - Click on each mouse to enter their information
    - NOTE: Pay special attention to the gender that was assigned and make sure the number you are giving the mouse matches it's gender, it can not be changed in the Mouse ID screen
    - **For each mouse**
      - Change Mouse ID to reflect ear tag number by clicking on the lock
      - Change Strain to match PCR results
      - Add genotype to match PCR results, where applicable
      - Add Ear Mark date
      - Add PCR On date
      - SAVE
      - Transfer the mouse to the Holding Cage it was born in
      - Add a tag indicating the color of the mouse
      - Add comments if necessary
      - SAVE
      - Click on the From Litter link to go back to the litter and choose another mouse

- **Weaning** → Be sure to update the database with any changes you made in the colony. Recall that the mice have already been weaned in the database so the only changes that need to be made are those regarding the pup's new location
  ○ Click **Litters**
  ○ Find the litter you weaned in the mouse colony
  ○ Click on each mouse in the litter and transfer to them to their new cage or sacrifice them
  ○ Add a comment if you move them to a new cage

SECTION 4: QUICK QUESTIONS, QUICK ANSWERS
A new litter was born today, what do I need to do in the database?
- See Section 3 "Creating a New Litter"

Pups have been Earmarked and the PCR has been done, what do I need to do in the database?
- See Section 3 "Earmarking and Genotyping"

What's that green square on the Events Calendar?
- This is a reminder that there are litters that need to be weaned in the mouse colony. Click on the highlighted day to display the litter.

I weaned a litter today in the mouse colony. Is there anything I need to do in the database?
- See Section 3 "Weaning"

General Timeline followed by Dr. Udvadia's Lab
Females for dissection mate for 2 days before being separated from the male.
Females that breed to create new litters may mate for longer.
Gestation is approximately 21 days.
New litters should be recorded in the database as soon as they are born.
Earmarking/tailing/PCR takes place when the pups are 12-13 days old.
Weaning takes place when the pups are 3-4 weeks old.
Mice can begin breeding at 6-8 weeks.