

CAMOD 2.7

User's Guide



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CREDITS AND RESOURCES

| caMOD Development and Management Teams | | | |
|---|-----------------------------------|---|---------------------------------------|
| Development | Quality Assurance | Documentation | Project and Product Management |
| Sima Pandya ¹ | Kavitha Thulasiraman ¹ | Jill Hadfield ³ | Anand Basu ^{3c} |
| Ulrike Wagner ¹ | Ye Wu ¹ | Ulrike Wagner ¹ | Makiko Duncan ² |
| Thiagarajan Prakash ¹ | Quy Phung ⁴ | | Juli Klemm ³ |
| | | | |
| | | | |
| | | | |
| ¹ Science Application International Corporation (SAIC) | ² 5AM Solutions | ² National Cancer Institute Center for Biomedical Informatics and Information Technology (NCI CBIIT) | |
| ⁴ Enterprise Science and Computing (E-SAC) | | | |

| Contacts and Support | |
|-----------------------------|---|
| NCICB Application Support | http://ncicbsupport.nci.nih.gov/sw/ Telephone: 301-451-4384 Toll free: 888-478-4423 |

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USING THE caMOD USER'S GUIDE

This chapter introduces you to the *caMOD User's Guide*.

Topics in this chapter include:

- [Introduction to the caMOD User's Guide](#) on this page
- [Organization of this Guide](#) on this page
- [Document Text Conventions](#) on page 2

Introduction to the caMOD User's Guide

The *caMOD 2.4 User's Guide* is the companion documentation to the caMOD software application. This guide provides an overview of caMOD and explains how to use the software.

Organization of this Guide

If you are new to caMOD, read this brief overview, which explains what you will find in each chapter.:

Chapter 1 Getting Started with caMOD—This chapter provides brief overview of the caMOD infrastructure, with brief descriptions of the cancer models database, the data submission and cancer models search features in caMOD, as well as system function administration. Additionally, this chapter provides details about creating a new user account, launching caMOD, navigating the interface, accessing online help and/or application support, should help be needed in using the software.

Chapter 2 Submitting and Editing Models—This chapter describes how to submit and edit models in caMOD.

Chapter 3 Searching the caMOD Database—This chapter describes the process for searching the caMOD database.

Chapter 4 caMOD Administration—This chapter describe the functions, roles, responsibilities and permissions related to administration in caMOD.

Index—This section of the guide provides a complete index.

Document Text Conventions

The following table illustrates how text conventions are represented in this guide. The various typefaces differentiate between regular text and menu commands, keyboard keys, toolbar buttons, dialog box options and text that you type.

| Convention | Description | Example |
|--|--|--|
| Bold & Capitalized Command > Capitalized command | Indicates a Menu command or a Sequential Menu commands | Admin > Refresh |
| TEXT IN SMALL CAPS | Keyboard key that you press | Press ENTER |
| TEXT IN SMALL CAPS + TEXT IN SMALL CAPS | Keyboard keys that you press simultaneously | Press SHIFT + CTRL, and then release both. |
| Boldface type | Options that you select in dialog boxes or drop-down menus. Buttons or icons that you click. | In the Open dialog box, select the file and click the Open button. |
| <i>Italics</i> | Used to reference other documents, sections, figures, and tables. | <i>caCORE Software Development Kit 1.0 Programmer's Guide</i> |
| <i>Italic boldface monospace type</i> | Text that you type | In the New Subset text box, enter <i>Proprietary Proteins.</i> |
| Note: | Highlights a concept of particular interest | Note: This concept is used throughout the document. |
| Warning! | Highlights information of which you should be particularly aware. | Warning! Deleting an object will permanently delete it from the database. |

CHAPTER 1

GETTING STARTED WITH CAMOD

This chapter introduces you to the caMOD interface and its navigation as well as to global operations used in all of the caMOD viewing windows.

Topics in this chapter include:

- [*Introduction to caMOD*](#) on this page
- [*Creating a New User Account*](#) on page 5
- [*Logging into caMOD*](#) on page 6
- [*Using Online Help*](#) on page 7
- [*What's New in caMOD*](#) on page 8
- [*Submit and Edit Models Page*](#) on page 8
- [*Navigation in caMOD*](#) on page 9
- [*Application Support*](#) on page 10

Introduction to caMOD

Cancer models that recapitulate many aspects of the genesis, progression, and clinical course of human cancers are valuable resources to cancer researchers engaged in a variety of basic, translational, clinical, and epidemiological investigations. The NCI Mouse Models of Human Cancers Consortium (MMHCC) is a collaborative program designed to derive and characterize animal models, and to generate resources, information, and innovative approaches to the application of animal models in cancer research.

The cancer models database (caMOD) is a web-based resource that provides information about rodent and many other animal models for human cancer to the public research community.

caMOD provides the following key capabilities to its users:

- **Data Submission**--Data in caMOD are extracted from the public scientific literature by curators and verified by the scientists who generated or worked with the models, or they are directly submitted by scientists. See [Submitting Models](#) on page 34 for more information.
- **Cancer Model Search**--Users can retrieve information about the making of models, their genetic descriptions, histopathology, derived cell lines, associated images, carcinogenic interventions, microarray data, and therapeutic trials in which the models were used. caMOD provides links to PubMed for associated publications and other resources such as mouse repositories, detailed information about altered gene, pathway affected, and information about human clinical trials that utilize the same compounds as the pre-clinical trials in the animal models. See [caMOD Database Search Overview](#) on page 11 for more information.
- **System Function Administration**--The Admin function provides services for user registration, review of submitted models and database management. See [Chapter 4 caMOD Administration](#) for more information.

caMOD is accessible at: <http://cancermodels.nci.nih.gov>.

caMOD Data

The caMOD data set includes data from the Mouse Tumor Biology Database (MTB). The data were courteously provided by our colleagues of the MTB team. Our special thanks go to Dr. Janan Eppig, Debbie Krupke, and Matthew Vincent. The Mouse Tumor Biology Database is part of the Mouse Genome Informatics program at the Jackson Laboratory, Bar Harbor, Maine. It can be found on the World Wide Web at <http://www.informatics.jax.org>.

Additional information about MTB has been published:

Näf D, Krupke DM, Sundberg JP, Eppig JT, Bult CJ. 2002. The mouse tumor biology database: a public resource for cancer genetics and pathology of the mouse. *Cancer Res* 62(5):1235-40.

caMOD Welcome and Login Page Tasks

In the caMOD welcome and login page, you can:

- Learn about the caMOD search and/or submit models features by reading the text about each.
- Launch a database search without being logged in. You can perform simple or advanced searches.
- Register for a new user account.
- Log in with an existing user account
- Access caMOD Quick Links (hypertext links in the upper left hand corner of the viewer)
- Open caMOD Online Help by clicking the **Help** hypertext link
- View What's New in caMOD

Note: To submit data to the caMOD database, you must have a user account.

Creating a New User Account

Users of caMOD can fall into one of two categories:

Guest User

The Guest User is any user without a valid system username and password. Guest users can search the cancer models database for public data. See [caMOD Database Search Overview](#) on page 11 for more information.

Registered User

The Registered User is any user with a valid system username and password. This user is also called a Public Member: a registered user with no administrative functions.

To register a new user from the caMOD welcome and login page, follow these steps:

1. Click the **Register** button.
2. In the registration form that opens ([Figure 1.1](#)), enter the required information. Items with an asterisk are required fields.

* indicates a required field


| Register for an account  | |
|---|--------------------------|
| * Institute / Organization | <input type="text"/> |
| * First Name | <input type="text"/> |
| * Last Name | <input type="text"/> |
| * Phone | <input type="text"/> |
| * Email | <input type="text"/> |
| Check if you are a principal investigator / lab chief | <input type="checkbox"/> |
| * If you are not a principal investigator / lab chief, select your principal investigator from the list. If your principal investigator is not in the list, please fill in information below. | <input type="text"/> |
| * Principal Investigator First Name | <input type="text"/> |
| * Principal Investigator Last Name | <input type="text"/> |
| * Principal Investigator E-mail | <input type="text"/> |

Figure 1.1 Fields for registering a new user

- *Institute/Organization
- *First Name
- *Last Name
- *Phone
- *Email
- **Principal Investigator**--check if you are the project PI.

If you are not the PI, select your Principal Investigator from the drop-down list. If the person is not on the list, enter the following information:

- *Principal Investigator--**First Name**
- *Principal Investigator--**Last Name**
- *Principal Investigator--**email**

3. Click the **Submit** button to execute the submission of the user information. Click **Cancel** to return you to the login screen.

Once you have submitted your entry form, it is forwarded to the NCICB Application Support team. They create your new user account, and send you an email with your login information for the new account.

Logging into caMOD

When you click the URL <http://cancermodels.nci.nih.gov> to access caMOD and indicate your agreement on the LEGAL RULES OF THE ROAD page, the login page displays (Figure 1.2).

Figure 1.2 caMOD login page

1. Enter the login information, the ID and Password. Click the **Login** button.
2. If you do not have a Login ID nor Password, click the **Register** button to apply for a user account. For more information, see [Creating a New User Account](#) on page 5.

User Settings

Once you log into caMOD, a list of links appears on the left sidebar of the Submit and Edit page. Your current login information and user permissions are listed at the bottom of this list.

1. Click the **User Settings** link to open the User Settings dialog box where you can review and/or modify your registered user information.
2. Click **Submit** to enter the new information. Click **Cancel** to abort the operation.

Using Online Help

The online help explains how to use all of the features of the caMOD software.

To access online help, use any of the following methods:

- Click the **Help** hypertext link in the left sidebar to open the complete online help project.
- Click the **Help** menu option in the right of the gray bar just below the caMOD logo on the viewer screen.
- **Note:** You can access online help without being logged into caMOD.
- Click the **Help** button that displays on the caMOD login form (Figure 1.2).
- Click with your mouse on the **Help** icon (?) on the page or form to open a context sensitive topic.
- Some fields in caMOD forms also display a **Help** icon (?). Pause your cursor over the icon to open a tool tip.

Once you are in online help, several options help you locate topics of interest (Figure 1.3).

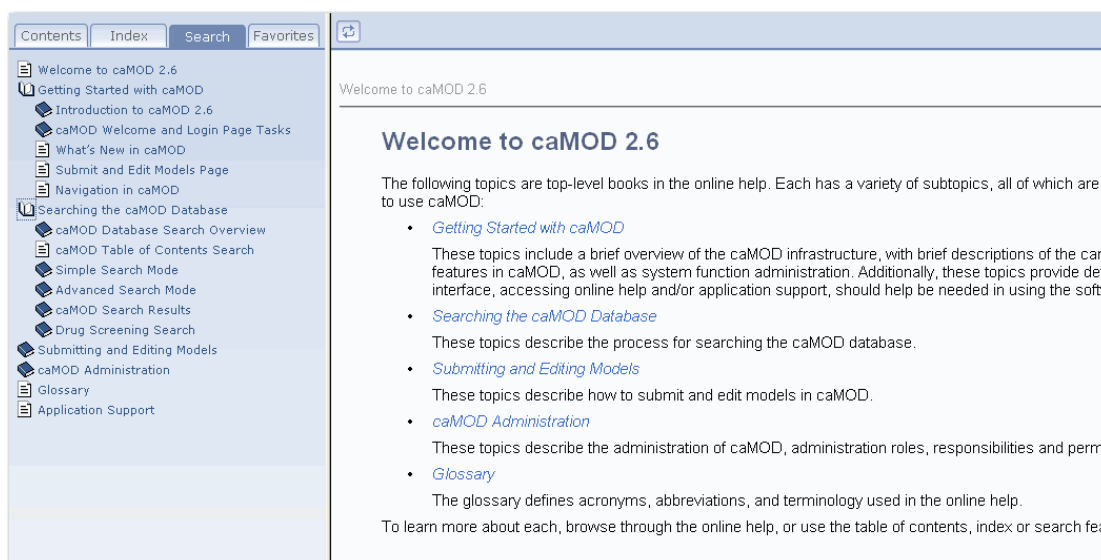



Figure 1.3 Online help offers several options for finding assistance in using caMOD

- Context sensitive help displays online help topics that correspond to the “form” or page from which help was opened. Click the **Show in Contents** button (📖) at the top left of the topics to open the full online help directory.
- The breadcrumb trail at the top of the page shows the relative location of the current help topic relative to neighboring topics. Click a breadcrumb link to display that help topic.
- Follow hypertext links, or **Related Topics** buttons in the help topics to open other closely related topics. If the current help page has related topics associated with it, you can also view them by clicking the **Related Topics** button (🔗) at the top right of the help page.

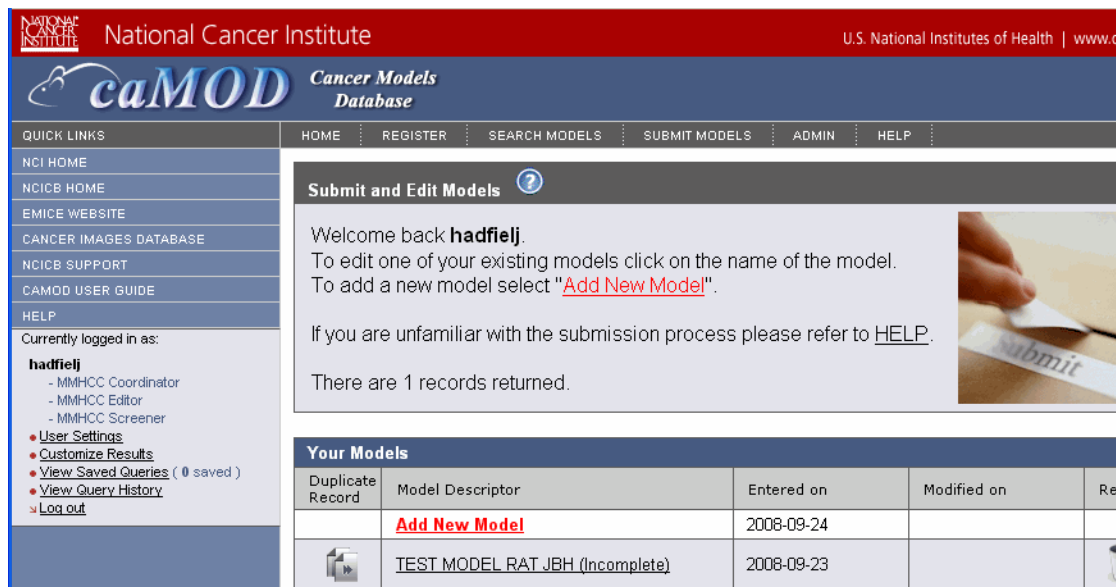
- Locate topics using the table of contents that displays in the left pane of the online help project or the **Index** tab that displays at the top of your screen.
- Perform word searches of Help by entering query text in the search text box.
- Print the current topic by clicking the **Print** button () at the top right of the help page.

What's New in caMOD

From the caMOD login page, you can click the **View What's New** hypertext link to learn what is new in caMOD. The What's New page announces and briefly describes new features, as well as giving abbreviated directions for using the new features.

Submit and Edit Models Page

After you have logged into caMOD, the application directs you automatically to the Submit and Edit Models Page (*Figure 1.4*).



Submit and Edit Models ?

Welcome back **hadfielj**.
 To edit one of your existing models click on the name of the model.
 To add a new model select "[Add New Model](#)".

If you are unfamiliar with the submission process please refer to [HELP](#).

There are 1 records returned.

Your Models



| Duplicate Record | Model Descriptor | Entered on | Modified on | Re |
|---|---|------------|-------------|----|
|  | TEST MODEL RAT JBH (Incomplete) | 2008-09-23 | | |

Figure 1.4 Submit and Edit Models page

If you have previously submitted models to caMOD, or you have been named as a PI of any models in caMOD, those models are listed on this page by default when it opens. If this is not the case, no models are listed. The page always displays the hypertext link in red text: **Add New Model**.

1. Click the **Add New Model** link; this opens the *Model Characteristics* page where you can add new information for your model. After you have submitted models, all models to which you have access, including those which you have submitted, display on this page, sorted alphabetically. The name of each is a link to its Model Characteristics form which displays general information about the model.
2. To duplicate a model, click on the appropriate **Duplicate Record** icon () that displays to the left of each model. Once duplicated, the copy is added to the

model list on the same page. The new model is displayed in alphabetical order under "Copy of..."

Duplicating a model might be appropriate when you want to modify a model, such as for creating an allele, while leaving an intact original model in the database. You also might want to create a duplicate when a heterozygous version and a homozygous version of the same model show different phenotypes. Since the way the models were generated is similar, it will speed up the submission process if the model is duplicated and changes are applied to the appropriate fields, such as the **Phenotype** field, instead of entering all the information again.

3. To delete a model, click the **Remove** icon () (in the right-hand column) corresponding to the model .

Note: Only the person who submitted the model or the PI for that model can duplicate and/or modify a model. Permissions for a model are defined when the model is submitted, and only two people--the submitter (model owner) and the PI--have "modify/delete" authorization for a model. For more information, see [Editing Data](#) on page 38.

Navigation in caMOD

The application advances to the Model Status page after you have submitted the data to the Model Characteristics page.

The Model Status Page is the anchor point of the submission. From here, you can navigate to other modes of caMOD. (Click the titles on the gray bar at the top of the viewer window ([Figure 1.5](#)).

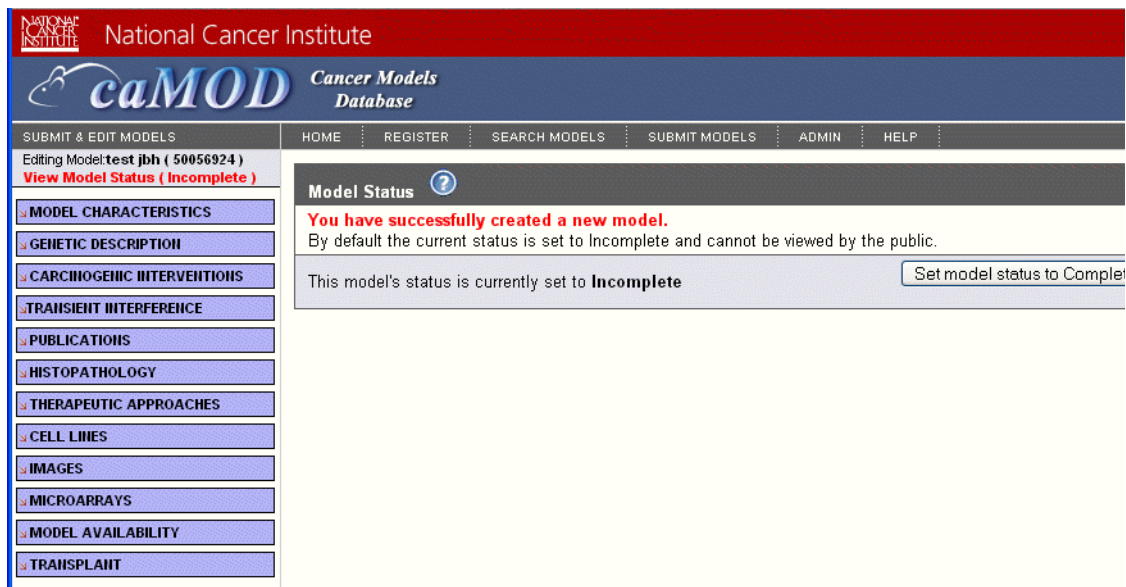


Figure 1.5 Model Status page

Newly submitted data becomes a link on the left sidebar of the Model Status page under the Model Characteristics category; selecting this link takes you back to the Model Characteristics page. The fields will be filled with the data you entered and you can add or edit information.

You will always return to the Model Status page after you have submitted data to one of the following parts of the submission, listed on the left sidebar:

- Genetic Description
- Carcinogenic Interventions
- Transient Interference
- Publications
- Histopathology
- Therapeutic Approaches
- Cell Lines
- Images
- Transplant
- Model Availability

To get a blank form to make a submission, always select the link that starts with "**Enter**".

Application Support

For any general information about the application, application support or to report a bug, contact NCICB Application Support.

| | |
|---|--|
| <p>Email: ncicb@pop.nci.nih.gov.</p> | <p>When submitting support requests via email, include the following:</p> <ul style="list-style-type: none"> • Your contact information, including your telephone number. • The name of the application/tool you are using • The URL if it is a Web-based application • A description of the problem and steps to recreate it. <p>The text of any error messages you have received</p> |
| <p>Application Support URL</p> | <p>http://ncicb.nci.nih.gov/NCICB/support</p> |
| <p>Telephone: 301-451-4384 or toll free: 888-478-4423</p> | <p>Telephone support is available Monday to Friday, 8 am – 8 pm Eastern Time, excluding government holidays.</p> |

CHAPTER 2

SEARCHING THE caMOD DATABASE

This chapter introduces you to the procedures for searching the caMOD database.

Topics in this chapter include:

- [*caMOD Database Search Overview*](#) on this page
- [*caMOD Table of Contents Search*](#) on page 12
- [*Simple Search Mode*](#) on page 13
- [*Advanced Search Mode*](#) on page 14
- [*caMOD Search Results*](#) on page 18
- [*Saving a Search Query*](#) on page 22
- [*Drug Screening Search*](#) on page 24
- [*Drug Screening Search Results*](#) on page 25

caMOD Database Search Overview

Note: In caMOD, you do not need a user account to query caMOD. You can perform any caMOD searches without being logged in or even without a user account.

To launch a search, follow these steps:

1. On the caMOD Login Page click the **Search Models** link along the row of titles above the caMOD title.

OR

1. Once you are logged into caMOD, you can also launch a search in the same way. Click the **Search Models** "title" at the top of the page.

Once on the Search page, the Search options for caMOD display at the upper left sidebar of your viewer. The Simple Search page displays by default.

2. Click **Table of Contents** to view a list of all model categories in the caMOD database. The Table of Contents provides a selection of model categories or models.
 - Click **Simple Search** on the left sidebar to specify simple parameters for the search. See [Simple Search Mode](#) on page 13 for more information.
 - Click **Advanced Search** on the left sidebar to specify advanced parameters for the search. See [Advanced Search Mode](#) on page 14 for more information.
 - You can also launch a "combined search". The combined search is described in both of the search mode topics.
 - Click **Drug Screening** to launch a search for a specific compound or drug and results of its use in yeast screening, *in-vivo* screening, pre-clinical trials and in clinical trials. For more information, see [Drug Screening Search](#) on page 24.

When defining search criteria, there are no "required" fields. You can add much detail, or only those parameters that you consider essential to the search. If you click the **Search** button having defined no parameters, all of the models will be listed in the Search Results.

caMOD Table of Contents Search

From any Search viewer, the Search options display at the top left sidebar of the viewer. Click the **Table of Contents** link to open the caMOD Table of Contents ([Figure 2.1](#)).

The screenshot displays the caMOD Table of Contents page. The top navigation bar includes the National Cancer Institute logo and the caMOD Cancer Models Database title. The sidebar on the left contains links for 'SEARCH MOUSE MODELS', 'HOME', 'REGISTER', 'SEARCH MODELS', 'SUBMIT MODELS', 'ADMIN', and 'HELP'. The main content area is titled 'Table of Contents' and lists 'Mouse models with primary tumors in the following organ systems' including Cardiovascular System (224), Digestive System (971), Endocrine Gland System (360), Integument System (989), Lymphohematopoietic System (997), Musculoskeletal System (341), Nervous System (316), Reproductive System (689), Respiratory System (994), Special Sensory Organs (172), and Urinary System (112). It also lists 'Mouse models with tumors in the following sites' including Head or Neck Tumor (0).

Figure 2.1 Table of Contents for launching a search

The Table of Contents is organized according to animal model organ systems. If you want to launch a search and don't know where to start, this is a good beginning point. The models listed in each category of the table of contents are results of predefined searches, the results of which correspond to the organ system listed. The number that appears in parentheses next to the name of the link is the number of models that are returned in the search.

Click the appropriate link to pull up the models in the selected category. The caMOD viewer then displays the number of models that show a phenotype in this particular organ or organ system.

Simple Search Mode

Note: When defining search criteria in caMOD, there are no "required" fields. You can add much detail, or only those parameters that you consider essential to the search.

1. From any caMOD viewer window, click the **Search Models** link at the top of the page. This opens the Simple Search dialog box ([Figure 2.2](#))

Figure 2.2 Simple Search page allows you to enter basic information for a model search

You can launch a search using either the **Keyword Search** or **Simple Search** options that display by default. Additionally, once you are on the caMOD search page, all Search options display on the upper left sidebar of your viewer.

2. For the Keyword Search, enter the query keyword.

Note: You cannot combine search terms by an AND statement in the Keyword Search feature.

3. In the Simple Search form, enter search parameters in one or more fields. If you enter criteria in more than one of the four fields, they will be connected by an AND statement. Parameters are described in [Table 2.1](#).

| Search Criteria | Description |
|------------------------------------|---|
| Model Name/Model Descriptor | Enter the name or parts of the model name. The search will return all models that contain the word or letter combination you entered. |

Table 2.1 Simple Search parameters and their descriptions

| Search Criteria | Description |
|--------------------------------------|---|
| Principal Investigator's Name | Select from the drop down list the name of the Principal Investigator for the model |
| Species | From the drop-down list, select the species of the model to be used as a query criterion |
| Site of the Lesion/Tumor | <p>The available options correspond to the donor species you specified for this query.</p> <ul style="list-style-type: none"> • If the Select button displays (Mouse, Rat or Zebrafish), click it to open a Lesion/Tumor data tree that corresponds to the donor species. Select from the vocabulary tree the lesion or tumor to be used as a criterion for the search. • If no Select button displays, in the text box, enter the Lesion or Tumor to be used as a criterion for the search. |

Table 2.1 Simple Search parameters and their descriptions (Continued)

4. To launch the search, click the **Search** button. To clear all fields, click the **Clear** button.

Results display in the Search Results viewer. See [caMOD Search Results](#) on page 18.

Combining Search Criteria

In both [Simple Search Mode](#) and [Advanced Search Mode](#), search criteria entered into the search form can be combined with an "AND" statement. You cannot combine search terms by an AND statement in the Keyword Search feature.

Example:

- If you launch a search for models where the model descriptor/name contains WAP, the search might return six matches.
- If you search for models where the model descriptor/name contains WAP and the tumor site is mammary gland, the search might return less than six matches, because both search criteria need to be fulfilled in order to get matching records. This is an easy way to narrow the number of retrieved records.

Advanced Search Mode

Once on the caMOD Search page, the Search options display on the upper left sidebar of your viewer.

Note: When defining search criteria in caMOD, there are no "required" fields. You can add much detail, or only those parameters that you consider essential to the search.

1. From any caMOD viewer window, click the **Search Models** link at the top of the page.

The **KeyWord Search** and **Simple Search** options display by default.

- Click **Advanced Search** on the left sidebar to launch a search based on very specific and detailed search criteria. This opens the Advanced Search dialog box (*Figure 2.3*).


| | | |
|--|---|---------------------------------------|
| Keyword Search: <input type="text"/> | | <input type="button" value="Search"/> |
| Advanced Search  | | |
| Model Name / Model Descriptor: | <input type="text"/> | |
| PI's Name: | <input type="text"/> | |
| Species: | <input type="text"/> | |
| Site of Lesion/Tumor: | <input type="text"/> | |
| Diagnosis: | <input type="text"/> | |
| Phenotype: | | |
| Phenotype: | <input type="text"/> | |
| Publication: | | |
| PubMed Identifier: | <input type="text"/> | |
| Genetic Description: | | |
| Models with Transgene | <input type="checkbox"/> Check here to search for models with transgene data | |
| Transgene Name: | <input type="text"/> | |
| Models with Targeted Modification | <input type="checkbox"/> Check here to search for models with targeted modification data | |
| Targeted Modification Gene Name: | <input type="text"/> | |
| Genomic Segment Designator: | <input type="text"/> | |
| Select Inducing Agent for Induced Mutation | <input type="text"/> | |
| Carcinogenic Interventions: | | |
| Select Carcinogenic Agent Type: | <input type="text"/> | |
| Select Carcinogenic Agent Name: | <input type="text"/> | |
| Cell Lines | | |
| Cell Line: | <input type="text"/> | |
| Therapeutic Approaches | | |
| Models with Therapeutic Approaches | <input type="checkbox"/> Check here to search for models with therapeutic approaches data | |
| Compound/Drug: | <input type="text"/> | |
| Histopathology | | |
| Models with Metastasis | <input type="checkbox"/> Check here to search for models with Metastasis | |
| Transient Interference | | |
| Transient Interference | <input type="checkbox"/> Check here to search for models with transient interference data | |
| Microarray Data | | |

Figure 2.3 Advanced Search page allows you to enter detailed information for a model search

- In the Advanced Search Mode dialog box, enter the specific parameters for your search. caMOD has a feature was that autocompletes the **Model Name**, **Site of Lesion/Tumor**, and **GeneName** fields. Type a letter and it should populate a dropdown list with matching values.

Search parameters are described in *Table 2.2*.

Note: Once you check a box, you do not need to select something from a drop-down list. Checking a box will return all models with the checked parameter, for example, all models with carcinogenic interventions.

| Advanced Search Parameters | Description |
|---|--|
| Keyword Search | Enter one or more words to be used as the query term for the search. |
| Model Name/Model Descriptor | Enter the name or parts of the model name. The search will return all models that contain the word or letter combination you entered. |
| PI's (Principal Investigator's) Name | Select from the drop-down list the name of the Principal Investigator for the model. |
| Species | From the drop-down list, select the Species of the model to be used as a query criterion |
| Site of the Lesion/Tumor | <p>The available options correspond to the donor species you specified for this model for this query.</p> <ul style="list-style-type: none"> • If the Select button displays (Mouse, Rat or Zebrafish), click it to open a Lesion/Tumor data tree that corresponds to the donor species. Select from the vocabulary tree the lesion or tumor to be used as a criterion for the search. • If no Select button displays, enter the Lesion or Tumor to be used as a criterion for the search. |
| Diagnosis | Click the Select button to open a diagnosis data tree that corresponds to the donor species you selected for this query. Select from the vocabulary tree the disease to be used as a criterion for the search . |
| Phenotype | <p>Enter a brief description or portion thereof for the Phenotype. The search will return all models that contain the word or letter combination you entered.</p> <p><i>Example:</i> Expression of the SV40 early region in the mammary and prostate epithelium leads to invasive carcinoma development over a predictable time course. The transgene is expressed in mammary ductal cells and the terminal ductal lobular unit in virgin animals and without hormone stimulation.</p> |

Table 2.2 Advanced Search parameters and their descriptions

| Advanced Search Parameters | Description |
|---|--|
| Genetic Description: <ul style="list-style-type: none"> • Models with Transgene • Models with Targeted Modification • Genomic Segment Designator • Inducing Agent for Induced Mutation | <p>Check boxes to search for models with transgene or targeted modification data. When either box is checked, that activates the row(s) below where you can select the transgene or targeted modification gene names.</p> <p>Select from the drop-down list the Genomic Segment Designator (also called the Clone Designator) which is location of the clone in the library.</p> <p>Select from the drop-down list the Inducing Agent if there was an induced mutation.</p> <p>If you select all four options, the search returns results that include any models with any of the criteria listed.</p> |
| Carcinogenic Interventions: | <p>These criteria are defined in two drop-down lists.</p> <ul style="list-style-type: none"> • In the first list, select the environmental factor type of carcinogen to which the model was exposed. • The options in the second drop-down list correspond to your selection in the first list. Select from the second list the specific carcinogen to which the model was exposed. If you make no selection, caMOD queries for all models matching the agent type in the first selection. <p>Note: You can query by type only, or by combination of type and carcinogen.</p> |
| Cell Lines | Enter the name or parts of the name to search for a specific Cell Line . |
| Therapeutic Approaches | Check to search for models with specified Therapeutic Approaches . At that point, the Compound/Drug text box becomes enabled where you can add an appropriate name or part of a name. When you select the compound name, all models with therapeutic approaches data will be returned. |
| Histopathology | Check the box to search for models with metastasis. |
| Transient Interference | Check the box to search for models with Transient Interference. |
| Microarray Data | Check the box to search for models with associated microarray data. |
| Tool Strain | Check the box to search for tool strains. |
| Models with Images | Check the box to search for models with associated images. |
| External Source Data | Select from the drop-down list showing available external sources, such as the Jackson Lab Mouse Tumore Biology database. |

Table 2.2 Advanced Search parameters and their descriptions (Continued)

4. Click the **Search** button to launch the search. To clear all field, click the **Clear** button.

Results display in the Search Results viewer. See the following section, [caMOD Search Results](#) for more information.

- | | |
|-------------------------------------|---|
| Notes about Advanced Search: | <ul style="list-style-type: none">• All items in all drop-down lists should return results as terms that have been used in the description of models in the "edited-approved" state.• You can save your search query to be reused later. For more information, see Saving a Search Query on page 22. |
|-------------------------------------|---|

Combining Search Criteria

In both [Simple Search Mode](#) and [Advanced Search Mode](#), when multiple search criteria are entered, the search is executed by automatically combining them with an "AND" statement. This, in effect, can narrow the number of retrieved records.

Example:

- If you launch a search for models where the model descriptor/name contains WAP, the search might return six matches.
- If you search for models where the model descriptor/name contains WAP and the tumor site is mammary gland, the search might return less than six matches, because both search criteria need to be fulfilled in order to get matching records.

caMOD Search Results

Notes: Drug Screening Results display differently and are interpreted differently than results obtained from the simple and advanced searches described in this topic. See [Drug Screening Search Results](#) on page 25 for more information.

The search results for a "Table of Contents Search" are identical to those retrieved using the Simple and Advanced Search features.

For Simple and Advanced Searches, search hits display in a Search Results page ([Figure 2.4](#)):

- Once you click the **Search** button, search results display in the Search Results viewer ([Figure 2.4](#)).
- The length of time the search took displays at the top of the search results page.
- If you click the **Search** button having defined no parameters for the search, all Edited-approved (public) models in the database whose release date is before the current date are shown in the Search Results.
- Any search hits that have associated image or microarray data display an icon in the Model Descriptor field. Click the icon to open the image or microarray data.
- In the table listing search results, click any column header to sort the results. The header by which results are sorted remains colored yellow after the sort.
- If you launch a keyword search, all instances of the query text in the search results displays as highlighted text ([Figure 2.4](#)). For example, all Edited-

approved models whose release date is before the current date are listed. Or all public models are listed.

- Some of the text, primarily the Model Descriptor, in the Search Results page consists of hypertext links that open other screens that display fixed data. Some of the experimental data pages may have links to other websites to provide you with additional information.

Search Criteria (2.126 seconds)

Keyword lung tumor

My Saved Query|
Save Query

Search Results ?

Your search returned **562** records

[First/Prev] 1 2 3 4 5 [Next/Last]

| No. | Model Id | Model Descriptor | Tumor Sites | Species |
|-----|----------|--|--------------------------------|----------------------|
| 1 | 186 | Mad2 +/- | Lung | Mouse (Mus musculus) |
| 2 | 382 | LucRep | | Mouse (Mus musculus) |
| 3 | 386 | RIP-Tag2 | Pancreas | Mouse (Mus musculus) |
| 4 | 383 | AdCre treated K-Ras^{V12} Tg | Lung | Mouse (Mus musculus) |
| 5 | 359 | cPLA2 (-/-) | Lung | Mouse (Mus musculus) |
| 6 | 337 | Cx32 KO | Adrenal Gland Liver Lung | Mouse (Mus musculus) |
| 7 | 462 | p21 -/- | Leukocyte (WBC) Liver | Mouse (Mus musculus) |

Figure 2.4 Search Results page; the page displays search criteria (circled)

An advanced search, initiated with a detailed query, returns results displaying identically to those returned from a simple search. In each case, the search criteria display under Search Criteria at the top of the Search Results page ([Figure 2.5](#)).

Search Criteria (1.235 seconds)

Keyword

prostate gland

My Saved Query

Save Query

Search Results ?

Your search returned 173 records

[First/Prev] 1 2 3 4 5 [Next/Last]






| No. | Model Id | Model Descriptor | Tumor Sites | Species |
|-----|----------|--|--|----------------------|
| 1 | 92 | ARR2PB1-caFGFR1 | Prostate Gland | Mouse (Mus musculus) |
| 2 | 145 | Prostate Specific PTEN Knock-out  | Prostate Gland Lung (Metastasis) Lymph Node (Metastasis) | Mouse (Mus musculus) |
| 3 | 97 | JOCK1 (iFgfr1 Tg) | Prostate Gland | Mouse (Mus musculus) |
| 4 | 103 | MMTV-int2  | Mammary Gland Lung (Metastasis) Prostate Gland | Mouse (Mus musculus) |
| 5 | 110 | 12T-7s | Prostate Gland | Mouse (Mus musculus) |
| 6 | 163 | Catn ^{h+/delta-ec3} MMTV ^{cre} | Epididymis Prostate Gland Salivary Gland Seminal Vesicles Vas Deferens | Mouse (Mus musculus) |
| 7 | 180 | Nkx3.1 mutant mice | Prostate Gland | Mouse (Mus musculus) |
| 8 | 251 | TRAMP  | Prostate Gland Lymph Node (Metastasis) | Mouse (Mus musculus) |
| 9 | 252 | C3(1)/SV40 Tag   | Bone Bulbourethral Gland Cartilage Mammary Gland Lung (Metastasis) Prostate Gland Salivary Gland Skin Gland - Sweat Gland | Mouse (Mus musculus) |

Figure 2.5 Advanced search results page displays its search criteria as well as search hits

To review complete search results, click any of the models listed in the Search Results viewer. This opens the Model Characteristics page displaying basic model information.

Note: If you open a model whose availability is part of the submitted model data, the **Model Availability** information displays underneath the Model Characteristics page. The **Strain** of the model displays, as well as the name of the **Distributor** (Investigator). If an email address for the Investigator exists in the caMOD database, click the name which is a hypertext link to the email information. For more information, see [Model Availability](#) on page 87.

Once the model information displays, a Comment field appears at the bottom of the page where you can add comments. Be aware that you can add a comment ONLY if you have logged into caMOD before you launched the search.

When the Model Characteristics page displays, other submitted or recorded information on the model becomes available through the model information menu options on the upper left sidebar of the page. Click on the underlined categories to review submitted information for the selected model.

Once you click a top-level category that contains model information, such as **Genetic Descriptions** or **Carcinogenic Interventions**, one search results page displays all pertinent information for that category in multiple tables, where appropriate. For

example, the **Genetic Description** category might display information about an **Engineered Transgene**, **Genomic Segment**, **Targeted Modification**, etc. The information fields that display on the search results tables correspond to the fields found on the corresponding submission pages. For more information about each category, see the appropriate sections in [Chapter 3, Submitting and Editing Models](#).

Notes: The Genomic Segment, Target Modification, and Engineered Transgene results tables each display an additional section: **Organ / Tissue Gene is Expressed In** and **Expression Level** with expression levels indicated in the table.

When models are located in the search that existed in the "old" caMOD database, Targeted Modification data can be recorded for the model that was obtained from external sources and is made available via caBIO. To review that information, click on the Genetic Description category when your appropriate Model Characteristics search page displays.

Search Results with caELMIR Link

Search results that return with Therapeutic Approaches data (as indicated by underlined Therapeutic Approaches on the left sidebar) may have links to study data from caELMIR (Electronic Laboratory Management Information Resource). caELMIR is a data management system for experimental data generated in preclinical trials.

To see if such study data is available, follow these steps:

1. Click the underlined Therapeutic Approaches on the left sidebar.
2. Scroll to the bottom of the Therapeutic Approaches page.

If caELMIR studies are associated with the model, you will see a table entitled: Summary of the caELMIR Study: {title}.

3. To open the study data, click the **Study Name** hypertext link.

The screenshot shows the caELMIR web interface. The top header includes the caBIG logo and 'cancer Biomedical Informatics Grid'. The left sidebar contains navigation links: STUDY Search, PROTOCOL Search, QUICK LINKS, caBIG HOME, NCIC HOME, and SITE HOME. The main content area is titled 'View Study' and displays a table with the following data:

| | |
|----------------------------|-------------------------------------|
| Study Name | Study C-1 |
| Study Hypothesis / Purpose | hypothesis of study c-1 |
| Description | description of of study c-1 |
| Investigation Start Date | 01-03-2008 |
| Investigation Stop Date | |
| Model Name | MMTV/PyVT |
| Protocol | test study protocol |
| Users | Wagner, Jill |
| User Groups | |
| Primary Investigator | Wagner, Jill |
| Created By | Wagner, Jill |
| Created Date | 01-04-2008 |
| Status | Published |

Below the study details table is a section titled 'Associated Experiments' with a table:

| Name | Start Date | Stop Date | Status |
|---|------------|-----------|-----------|
| experiment 1 of study C-1 | 01-03-2008 | | Published |
| experiment 2 of study C-1 | 01-03-2008 | | Published |

Figure 2.6 An example of caELMIR study data (hypothetical) linked from caMOD

You can open associated experiments by clicking the links for those listed in the Associated Experiments segment of the user interface.

Saving a Search Query

Note: You must be logged in before you can save a search query.

Once you have submitted a search query, at the top of the Search Results page, a **Save Query** button displays. To save a search query, in the text box enter a name for the query and click the **Save Query** button.

To see search queries you have saved, click the **View Saved Queries** hypertext link in the lower left sidebar. (This link displays in the left sidebar in any caMOD viewer window.)





| Saved Queries | | | | | |
|--|--------------------------|---------|---|------------|---|
| Query Name | Last Executed | Results | Resubmit Query | Edit Query | Delete |
| ▶ My Saved Query jbh 1 Search Criteria Model BXH-2 Descriptor | 2006-05-19 14:21:00.0 | 1 |  RUN QUERY | EDIT QUERY |  |
| ▶ My Saved Query jbh 2 | 2006-05-19 14:43:25.0 | 361 |  RUN QUERY | EDIT QUERY |  |

Figure 2.7 Saved Queries dialog box

The Saved Queries dialog box ([Figure 2.7](#)) displays search queries identified by the names you assigned to each, the time point of the search and the number of hits in the search ([Figure 2.7](#)).

To see the search criteria for each search query listed, click the **Query Name**.

Click the associated **RUN QUERY** or **EDIT QUERY** buttons to resubmit the query or to edit the query.

- **RUN QUERY**--When you re-run the query, the new search result hits display in a Search Results page. If launched as a Keyword Search, the query term is highlighted in yellow wherever it occurs in the search results text.
- **EDIT QUERY**--The Advanced Search page displays, allowing you to edit or add fields to your original query. To launch a search with the edited criteria and to save the changes in your query, click the **Search** button at the bottom of the Saved Queries page. The new Search Results page opens; at the top of the page, select the option to save the query with new criteria under the existing search query name or to save the new criteria under a new search query name, which you enter into the text box. Click the **Save Query** button to execute your selection.

Search Query History

To see a Search Query History, click the **View Query History** hypertext link in the lower left sidebar. (This link displays in the left sidebar in any caMOD viewer window.)







| Query History (Last 20 searches) | | | |
|------------------------------------|--------------------------|---------|---|
| Query Name | Last Executed | Results | Resubmit Query |
| ▶ No Name Provided | 2006-05-19 13:59:29.0 | 5 |  RUN QUERY |
| ▶ No Name Provided | 2006-05-19 13:56:29.0 | 361 |  RUN QUERY |
| ▶ No Name Provided | 2006-05-19 13:35:14.0 | 1 |  RUN QUERY |
| ▶ No Name Provided | 2006-05-19 13:30:59.0 | 1 |  RUN QUERY |
| ▶ No Name Provided | 2006-05-19 13:26:11.0 | 361 |  RUN QUERY |
| ▶ No Name Provided | 2006-05-19 13:26:09.0 | 361 |  RUN QUERY |

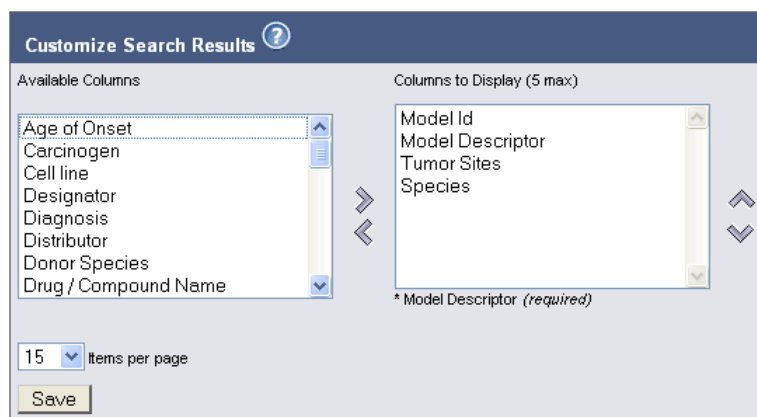
Figure 2.8 Query History dialog box

The Query History that opens displays Query Names for the last 20 searches you have launched (Figure 2.8). It also displays the time point of the search and the number of hits in the search. By clicking the associated RUN QUERY button, you can resubmit the query.

Search results re-display in a Search Results page. If the search was launched as a Keyword Search, the query term is highlighted in yellow wherever it occurs in the search results text.



Customizing Search Results

To customize search results display, click the **Customize Results** hypertext link in the lower left sidebar. (This link displays in the left sidebar in any caMOD viewer window.)



The dialog box titled "Customize Search Results" features a help icon (?) in the top right. It is divided into two main sections: "Available Columns" on the left and "Columns to Display (5 max)" on the right. The "Available Columns" list includes: Age of Onset, Carcinogen, Cell line, Designator, Diagnosis, Distributor, Donor Species, and Drug / Compound Name. The "Columns to Display" list includes: Model Id, Model Descriptor, Tumor Sites, and Species. Between the two lists are "Forward" (right arrow) and "Back" (left arrow) buttons. Below the lists, there is a "15 Items per page" dropdown and a "Save" button. A note at the bottom right states "* Model Descriptor (required)".

Figure 2.9 Customize Search Results dialog box allows you to define how search results display

The dialog box that opens displays **Available Columns** and **Columns to Display** (Figure 2.9). The field names in the left panel become column titles in the Search Results table when they are moved to the right panel. In either select box, select fields and move them to the other box using the **Forward** or **Back** buttons ( ). A

maximum of five columns can display at one time in a Search Results viewer. **Model Descriptor** is the only required field in the **Columns to Display** selection pane. You can also select the number of search results that display on each page. Select the number from the drop-down menu at the bottom of the page.

Click the **Save** button to save your settings. Any searches you launch after this configuration will display the fields and number of results you defined in the Search Results page.

Drug Screening Search

The Drug Screening Search page allows you to search for a specific compound or drug and results of its use in yeast screening, *in-vivo* screening, pre-clinical trials and in clinical trials. The yeast and in vivo screening data were obtained from the NCI Developmental Therapeutics Program(<http://dtp.nci.nih.gov>).

Summaries of the four drug screening options are as follows:

NCI In-Vivo Anti-tumor Screening Data—For approximately thirty years, the NCI used *in vivo* animal tumor models to screen compounds for potential antitumor activity. A detailed description of these models was published in Cancer Chemotherapy Reports.

NCI Yeast Anticancer Drug Screen—The NCI Yeast Anticancer Drug Screen has screened tens of thousands of compounds for the ability to inhibit the growth of selected yeast strains altered in DNA damage repair or cell cycle control. Compounds are initially screened against a panel of 6 yeast strains at a single concentration (Stage 0). Compounds with activity in Stage 0 are rescreened against the same panel at 2 concentrations (Stage1). Selected compounds with activity in Stage1 that also show selectivity are rescreened against a panel of 13 yeast strains at 5 concentrations (Stage 2). Available here are screening results for compounds that are not covered by a confidentiality agreement. The data were last updated in April 2002.

Clinical Trials—Clinical Trials data are obtained via caBIO (Biomedical Data Objects) from the NCI Cancer Therapy Evaluation Program (CTEP) and Physician Data Query (PDQ).

Pre-Clinical Trials—Pre-clinical trials are populated with data stored in caMOD.

Launching a Drug Screening Search

To initiate a drug screening search, complete the following steps:

1. From any caMOD viewer window, click the **Search Models** link at the top of the page.
2. Click the **Drug Screening** option listed among the **Search** options in the upper-left of the browser window.
3. On the Drug Screening Data form, enter the appropriate information. (Fields are described in [Table 2.3](#).) Note that you can check all of the check boxes in one

search. Items with an asterisk are required fields. Click **Submit** to initiate the

| Drug Screening Fields | Description |
|-----------------------------------|--|
| *NSC Number | <p>Enter the NSC number in the text box. Once you start entering the number, caMOD autocompletes matching NSC numbers from the caMOD database. The NSC number is a unique drug identifier issued by the Nomenclature Standards Committee (NSC) of the U.S Food and Drug Administration.</p> <ul style="list-style-type: none"> • If you don't know the number, click the Find NSC# button. The button opens a page at the Developmental Therapeutics Program (DTP) at NCI which allows you to find the NSC number for a specific drug. • On the DTP page, select Chemical name starts or Chemical name number. (By default, the radio button is set to find the NSC number.) • Enter text in the Search Parameters field, and click Submit. • Once you have found the NSC number, copy the number from the field onto the corresponding field on the caMOD Drug Screening page. |
| DTP Yeast Screening Data | Check the box to find yeast screening data related to the specified drug. |
| DTP In-vivo Screening Data | Check the box to find <i>in-vivo</i> screening data related to the specified drug. |
| Pre-clinical Trials | Check the box to find pre-clinical trials with this compound or drug related to the specified drug. |
| Clinical Trials | Check the box to find clinical trials with this compound or drug related to the specified drug. |

Table 2.3 Drug Screening fields and their descriptions

search.

4. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing search parameters, **Reset** returns the form back to the unmodified state (the default).

For general information about search results, see the following section.

For specific information about drug screening results, see:

[Yeast Screening Search Results](#) on page 26

[In-Vivo Drug Screening Search Results](#) on page 27

[Pre-Clinical/Clinical Trials Drug Screening Results](#) on page 30.

Drug Screening Search Results

Notes about a Drug Screening Search:

- Once you click the **Search** button, search results display in the Search Results viewer.

- If you click the **Search** button having defined no parameters for the search, all of the models in the database will be listed in the Search Results.

The Search Results page displays one or more sets of data located in the search, based on how you configured your inquiry. The details for each section of information display in table format.

Some of the text, primarily the Model Descriptor, in the Search Results page consists of hypertext links that open other screens that display fixed data. Some of the experimental data pages may have links to the Internet for genes listed on the page. These final links can provide you with technical information, for instance, about the gene.

Follow the cross references for more information about each of the drug screening data types:

[*Yeast Screening Search Results*](#) on page 26

[*In-Vivo Drug Screening Search Results*](#) on page 27

[*Pre-Clinical/Clinical Trials Drug Screening Results*](#) on page 30

Yeast Screening Search Results

You can launch a search for yeast-screening of drug compounds. The results display on a Search Results page under the summary table.

The NCI Yeast Anticancer Drug Screen has screened tens of thousands of compounds for the ability to inhibit the growth of selected yeast strains altered in DNA damage repair or cell cycle control. Available here are screening results for compounds that are not covered by a confidentiality agreement. The data were last updated in April 2002.

Every yeast screening experiment is run in duplicate. The results of the two columns of data can be interpreted as follows: A = Average inhibition of growth by the drug and D = the difference in growth inhibition between the two experiments.

The data for three experimental stages displays:

- Stage 0: Drug compounds are initially screened against a panel of 6 yeast strains at a single concentration. All yeast strains used in the experiment are listed in the table.
- Stage 1: Drug compounds with activity in Stage 0 are re-screened against the same panel at 2 concentrations.
- Stage 2: Selected drug compounds with activity in Stage1 that also show selectivity are re-screened against a panel of 13 yeast strains at 5 concentrations.

An example of yeast screening data appears in [Figure 2.10](#):

| Search Results for NSC: 632 CAS: | | | | |
|---|---------|--|--|--|
| Publicly available data from the NCI Yeast Anticancer Drug Screen Stage 0 - Crude Sensitivity Screen | | | | |
| Experimental Design - Stage 0 Testing | | Yeast Strains used for Stage 0 Experiments | | |
| Strain / Dosage A= AveInh, D=DiffInh | 50.00µM | | | |
| | A | D | | |
| CLN2oe rad14 | 63.80 | 5.00 | | |
| bub3 | 13.15 | 14.30 | | |
| mec2-1 | 49.30 | 19.20 | | |
| mgt1 sgs1 | 84.45 | 12.10 | | |
| mlh1 rad18 | 82.10 | 3.80 | | |
| rad50 | 92.80 | 4.20 | | |

| Publicly available data from the NCI Yeast Anticancer Drug Screen Stage 1 - Crude Selectivity Screen | | | | |
|---|--------|--|---------|-------|
| Experimental Design - Stage 1 Testing | | Yeast Strains used for Stage 1 Experiments | | |
| Strain / Dosage A= AveInh, D=DiffInh | 5.00µM | | 50.00µM | |
| | A | D | A | D |
| CLN2oe rad14 | 3.00 | 2.00 | 71.00 | 12.00 |
| bub3 | -12.00 | 8.00 | -8.00 | 4.00 |
| mec2-1 | 6.00 | 2.00 | 75.00 | 0.00 |
| mgt1 sgs1 | 50.00 | 0.00 | 83.00 | 6.00 |
| mlh1 rad18 | 14.00 | 4.00 | 86.00 | 3.00 |
| rad50 | 36.00 | 12.00 | 94.00 | 2.00 |

| Publicly available data from the NCI Yeast Anticancer Drug Screen Stage 2 - Dose Response | | | | |
|--|--|--|--|--|
|--|--|--|--|--|

Figure 2.10 Drug screening yeast anti-cancer drug screen

- Click **{#} Experimental Design ...** to open a description of the experiment design used in the drug screening experiment.
- Click **Yeast Strains Used ...** to open information about the yeast strains used in the drug screening experiment.

In-Vivo Drug Screening Search Results

You can launch a search for *in-vivo* drug screening compounds. The results initially display on a Summary Page (described as follows).

In-Vivo Drug Screening Search Results Summary Page

The summary page contains for each of the NSC numbers included in the *in-vivo* query: 1) the model that was used to test the drug, 2) the inoculation site, 3) the mouse strain, and 4) the number of experiments. This last number is a hyperlink that takes you

to a details page that outlines and summarizes the results for each set of experiments (See [Figure 2.11](#) and the Details section below).

| Search Results for NSC: 24820 CAS: | | |
|---|--|--------------------|
| In Vivo Screening Data | | |
| For approximately thirty years, the NCI used <i>in vivo</i> animal tumor models to screen compounds for potential antitumor activity. | | |
| 1 | Carcinoma 1025; Protocol= Murine Tumor employed prior to 1986 in (SC (subcutaneous)) | 4 |
| 2 | L1210 Leukemia; Protocol = Murine Tumor Employed Prior to 1986 in (IP (intraperitoneal)) | 24 |
| 3 | Lieberman Plasma Cell No. 1 (LPC-1) in (IP (intraperitoneal)) | 9 |
| 4 | P388 Leukemia; Protocol = Murine Tumor Employed Prior to 1986 in (IP (intraperitoneal)) | 12 |
| 5 | P388 Leukemia; Protocol = Murine Tumor Employed Prior to 1986 in (IP (intraperitoneal)) | 12 |
| Summary of Preclinical Trials | | |
| No data found. | | |
| Current Clinical Trials | | |
| No data found. | | |
| Publicly available data from the NCI Yeast Anticancer Drug Screen | | |
| No data found. | | |

Figure 2.11 In-vivo drug screening results

For example

- L1210 Leukemia; Protocol = Murine Tumor Employed Prior to 1986 (intraperitoneal) B6D2F1 (BDF1) mice (4 records)
- L1210 Leukemia; Protocol = Murine Tumor Employed Prior to 1986 = represents the model that was used for the test
- intraperitoneal = site where the tumor initiator (cell line) was placed
- B6D2F1 (BDF1) mice = mouse strain in which the experiment was performed
- 4 records = number of experiments.

Click on the experiment number hypertext link which opens the results detail page corresponding to the experiment.

In-Vivo Drug Screening Search Results Details Page

The top of the detail page opened from the in-Vivo Search Results [In-Vivo Drug Screening Search Results Summary Page](#) displays the NSC# and a hypertext link to chemical data for the compound ([Figure 2.12](#)).

| Xenograft - Model: | | | | | | | | |
|--|-----------------|---------|----------------|-------------------------|--------------------|--------------------|------------------------------|----------------------|
| NSC 1210 - Chemical Data | | | | | | | | |
| Administration of Drug | | | | Toxicity Results | | Experiment Results | | |
| Schedule | Route | Vehicle | Dose | Toxicity Evaluation Day | Toxicity Survivors | Endpoint | Evaluation Day | Treated/Controls (%) |
| Q01DX001 | intraperitoneal | Saline | 00100.00 mg/kg | usually day 5 | 04/04 | Mean survival time | animals followed until death | 101.0 |
| Q01DX001 | intraperitoneal | Saline | 00200.00 mg/kg | usually day 5 | 03/04 | Mean survival time | animals followed until death | 95.0 |
| Q01DX001 | intraperitoneal | Saline | 00400.00 mg/kg | usually day 5 | 01/04 | Mean survival time | animals followed until death | 0.0 |

Figure 2.12 Drug screening in-vivo search results details page

The detail page also lists in table format each individual experiment performed with the specified drug on the specific model. The table categories are described in [Table 2.4](#). Examples are given, where appropriate.

| Administration of Drugs | Description |
|--------------------------------|--|
| Schedule | Treatment Schedule Example: Q04DX005 = total of 5 injections administered every four days Q = every 04 = treatment interval D = interval unit (minutes, hours, days) X = times 005 = number of injections associated with the basic schedule |
| Route | Administration site of the drug |
| Vehicle | Medium in which the drug was diluted |
| Toxicity Results | |
| Dose | Amount of drug administered |
| Toxicity Evaluation Day | A day specified by the screener that will serve as a toxicity valuation point for the compound under test. |
| Toxicity Survivors | The number of survivors on toxicity day and the total number of animals started on test. |

Table 2.4 Administration of Drugs page describes in-vivo drug screening search parametersIn-vivo drug screening search details descriptions

| Administration of Drugs | Description |
|--------------------------------|---|
| Experiment Result | |
| Endpoint | Parameter for measuring the success |
| Evaluation Day | Day on which the success of the experiment was evaluated |
| Treated/Controls (%) | <p>Test evaluation divided by the control evaluation yield percent evaluation. Used to determine activity of test compound. The mean/median tumor weight or the mean/median survival time of the treated group is divided by that of the untreated group and multiplied by 100.</p> <p><i>Example 1:</i> Endpoint parameter is mean survival time: treated animals survived 45 days control animals survived 40 days Calculation: $45 / 40 * 100 = 112.5\%$</p> <p><i>Example 2:</i> Endpoint parameter is mean tumor weight: tumors of treated animals weight 10 grams tumors of treated animals weight 12 grams Calculation: $10 / 12 * 100 = 83\%$</p> |

Table 2.4 Administration of Drugs page describes in-vivo drug screening search parametersIn-vivo drug screening search details descriptions

Pre-Clinical/Clinical Trials Drug Screening Results

To launch a search for pre-clinical or clinical trials drug screening results, see [Drug Screening Search](#) on page 24. Once the search is initiated, the results of pre-clinical and/or clinical trials performed with the specified drug display on a Search Results page in a summary table, with details listed for each type of search under the summary table.

Pre-Clinical Trials Results Details

The pre-clinical trials results table displays the model descriptors for models tested with the specific drug. Each descriptor is a hypertext link to more complete model information, starting with the Model Characteristics page. See the results description in [caMOD Search Results](#) on page 18 for more information.

Clinical Trials Results Details

The clinical trials results table displays the name of the clinical trial on the title bar of the table. The body of the table lists each center performing the clinical trial, the PI of the project, the phase of the clinical trial and the status of the clinical trial ([Figure 2.13](#)).

| Search Results for ARSENIC TRIOXIDE (Trisenox) NSC: 706363 CAS: | |
|---|---|
| Current Clinical Trials for ARSENIC TRIOXIDE (Trisenox) | |
| H Lee Moffitt Cancer Center H Lee Moffitt Cancer Center | PI: Kapil N. Bhalla Phase: II Status of Trial: Closed to Accrual & Treatment |
| Memorial Sloan Kettering Cancer Ctr Memorial Sloan Kettering Cancer Ctr | PI: David A. Scheinberg Phase: II Status of Trial: Complete |
| M.D. Anderson Cancer Center M.D. Anderson Cancer Center | PI: Deborah A. Thomas Phase: II Status of Trial: Complete |
| University of Miami Sylvester Cancer Center University of Miami Sylvester Cancer Center | PI: Kelvin Paul Lee Phase: III Status of Trial: Active |
| M.D. Anderson Cancer Center M.D. Anderson Cancer Center | PI: Jaffer A. Ajani Phase: II Status of Trial: Active |
| University of Chicago University of Chicago | PI: Hedy Lee Kindler Phase: II Status of Trial: Closed to Accrual & Treatment |
| Cancer and Leukemia Group B Cancer and Leukemia Group B | PI: Bayard Lowery Powell Phase: III Status of Trial: Active |
| Cancer and Leukemia Group B Cancer and Leukemia Group B | PI: Dean Francis Bajorin Phase: II Status of Trial: Closed to Accrual & Treatment |
| Eastern Cooperative Oncology Group Eastern Cooperative Oncology Group | PI: Mark R. Litzow Phase: II Status of Trial: Closed to Accrual & Treatment |
| New Approaches to Brain Tumor Therapy Consortium New Approaches to Brain Tumor Therapy Consortium | PI: Samuel Ryu Phase: I Status of Trial: Active |
| Southwest Oncology Group Southwest Oncology Group | PI: Tomasz M. Beer Phase: II Status of Trial: Temporarily Closed to Accrual |

Figure 2.13 Drug screening search clinical trials data

CHAPTER 3

SUBMITTING AND EDITING MODELS

This chapter introduces you to the processes in caMOD for submitting and editing models.

Topics in this chapter include:

- *Submitting Models* on page 34
- *Navigating a Data Tree* on page 41
- *Genetic Description* on page 44
- *Carcinogenic Interventions* on page 53
- *Transient Interference* on page 71
- *Publications* on page 75
- *Histopathology* on page 76
- *Therapy* on page 82
- *Cell Lines* on page 84
- *Images* on page 85
- *Microarray Data* on page 87
- *Model Availability* on page 87
- *Transplantation* on page 89
- *Grid Availability* on page 91

Submitting Models

After you have logged into caMOD, the Submit and Edit Models page opens. If you click the **Add New Model** red hypertext link, the Model Characteristics dialog box opens for you to add information about the new model (*Figure 3.1*).

Submit and Edit Models ?

Welcome back **hadfielj**.
 To edit one of your existing models click on the name of the model.
 To add a new model select "[Add New Model](#)".

If you are unfamiliar with the submission process please refer to [HELP](#).

There are 1 records returned.

| Your Models | | | | |
|------------------|---------------------------------|------------|-------------|--------|
| Duplicate Record | Model Descriptor | Entered on | Modified on | Remove |
| | Add New Model | 2008-09-24 | | |
| | TEST MODEL RAT JBH (Incomplete) | 2008-09-23 | | |

Figure 3.1 Submit and Edit Models page

Notes about Submitting Models

- You must enter Model Characteristics about your model.
- You need to fill out only the parts that apply to your model. For example, if your model was not exposed to carcinogenic interventions, you don't have to enter data about carcinogenic interventions.
- You can make multiple entries for each category. For example, if the model was exposed to two different chemicals or if the model was used in multiple therapeutic trials, you would enter data for each instance. Once an initial entry has been made, submit it. Enter multiple entries for the same model in exactly the same manner. See the Generic Steps for Submitting Models below. A newly-named link will display in the same options list as described in the steps below.

If you cannot complete the submission of the model in one session, you can come back later and add data. caMOD will provide you with a list of all models that you entered after you have logged in.

Generic steps for Submitting Models

1. Click **Add New Model** on the Submit and Edit Models page. Enter information about your model on the Model Characteristics page and click the **Submit** button.

The Model Status page opens, verifying that you have successfully created a model (*Figure 3.2*).

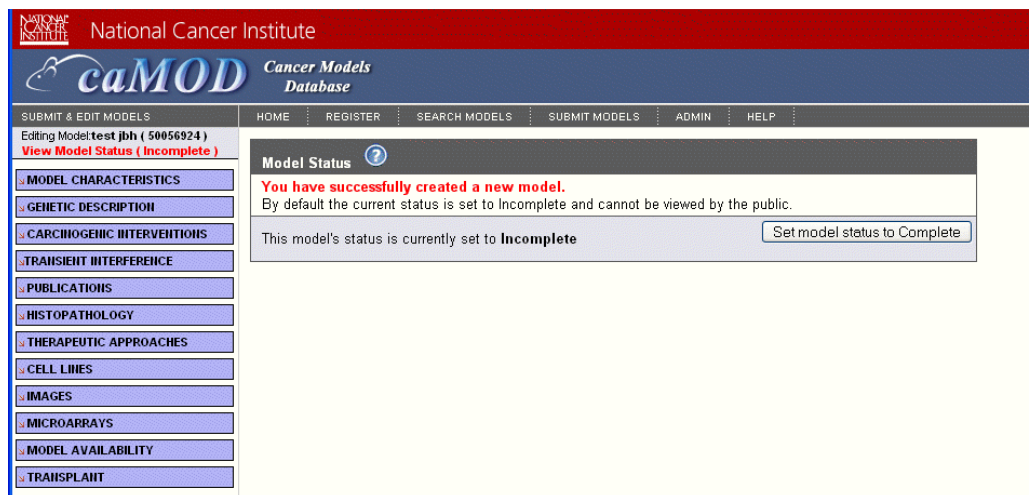


Figure 3.2 Model Status page

By default, at this point the model is "Incomplete" and cannot be viewed by the public. You can continue to add more information to your incomplete model now (follow steps 4 and 5) or later. It is preferred that you finish your model before clicking the **Set Model Status to Complete** button.

Note: Moving a model to **Complete** starts the curation process. If necessary, however, you can modify the model after the curation process has started.

2. To add more information about your model, click any category from the list of Submit and Edit Models menu options on the left sidebar of the caMOD viewing window. These menu options display after you have clicked the (model) **Submit** button in any caMOD viewer or when you are editing a model.
3. Click any red hypertext link listed under the top-level category headings. This opens the appropriate form for the data you want to enter about your model. (For more information about these pages, open online help using any of the methods described on)
4. Enter or select the relevant information about your animal model in the text entry fields. Items on the browser pages that are bold and have an asterisk are required fields.

Once submitted, a screen displays verifying you have created a new model. By default, the status is set at incomplete; the model in this state cannot be viewed publicly.

Note: After editing an existing model, a screen also displays verifying that you have added/deleted/updated information for the model.

- Click the **Set Model Status to Complete** button. This should be the last step after all information is entered.

At that point, the application returns to the Submit and Edit screen where the name of the new model is listed in blue under the sidebar category for the information you added. The name is a hyperlink to the form containing the corresponding information for the model.

- To review or edit the information, click on the name of the model. Click the Model characteristics category, and click on the blue text model name.

You can review the information or edit it, where appropriate.

- To add more information about the model, click the model name and repeat steps 4 and 5 in this list. Continue to add information about the model until it is complete.
- In the same manner, enter and submit a second entry for the same model.

For detailed directions about submitting model information, see the specific topics listed in the online help Table of Contents.

Structure of the Submission Process

This section and [Table 3.1](#) summarize the pages of caMOD that you can use to enter or review data about a model submitted into caMOD.

| Information Categories in caMOD | Description of Category's Focus |
|--|---|
| Model Characteristics | Provides an overview about the experimental design and phenotype of the model. |
| Genetic Description, Carcinogenic Interventions, Therapeutic Interventions, Transplants | Describe the way the model was generated in more detail. |
| Publications | Describes publications written about the animal model and experiments conducted with the animal model. |
| Histopathology | Stores histopathology results for each affected organ in the model |
| Cell Lines | Describes Cell Lines that were generated from the model |
| Therapeutic Approach | Illustrates experiments and the results of attempts to cure the animals |
| Image and Microarray Data | Repositories for appropriate images and expression data for the model |
| Model Availability | Allows you to submit sources for acquiring the animal model itself or other strains that were used to generate the animal model |

Table 3.1 Information categories in caMOD

Example:

A double-transgenic animal was crossed with a knock-out animal, treated with UV-light.

To properly describe this model, you would make the following entries:

- **Genetic Description > Enter Engineered Transgene > Transgene 1**
- **Genetic Description > Enter Engineered Transgene > Transgene 2**
- **Genetic Description > Enter Targeted Modification > Knock-out Gene**
- **Carcinogenic Interventions > Enter Radiation > UV-light**

Model Status Page

After you have clicked the **Submit** button on any of the pages where you entered information for a new model, the Model Status page displays. The default status for the model is **Incomplete**, although the text does indicate that you have successfully created a new model.

Note: A model cannot be viewed by the public in the Incomplete state. In fact, the only state in which the public can view a model is when it has been “Edited-approved”.

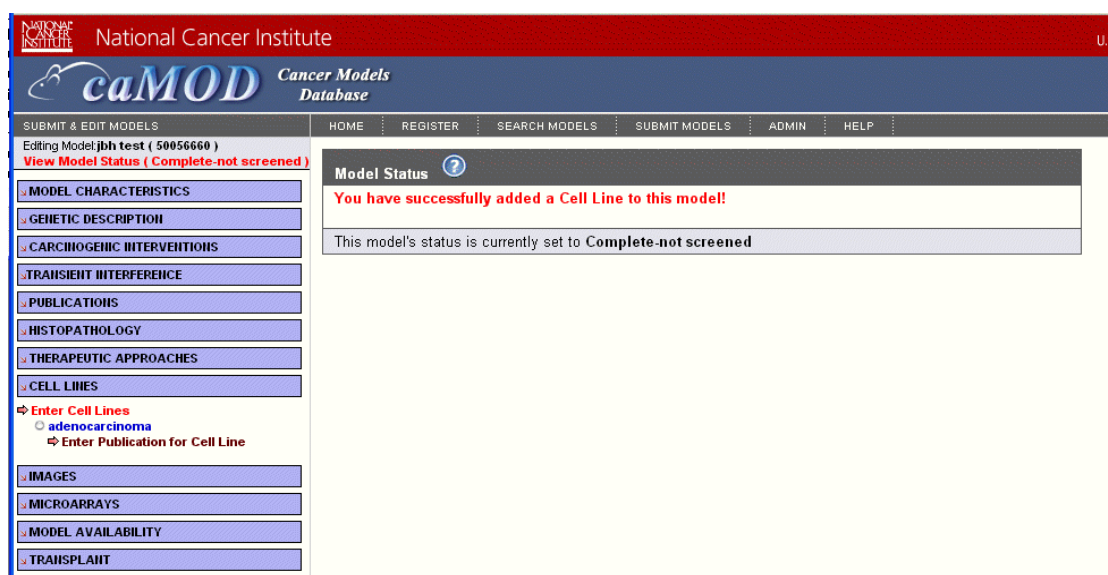


Figure 3.3 Once information is added to a model, it displays under the category in the left sidebar of the Model Status page.

From the Model Status page (*Figure 3.3*), you can add or edit information relating to your model, or you can click the **Set Model Status to Complete** button to finalize the submission of the model.

Back in the Submit and Edit Models page, the status of each model in the database is indicated:


Examples:

- **Edited** -- Approved by Editor. This model is ready to be displayed to the public because the review process has been completed and the model was approved.

- **Screen** -- Assigned for screening
- **Complete** -- Not screened. This model has been declared completed by the submitter and awaits review or more specific assignments to the screener.

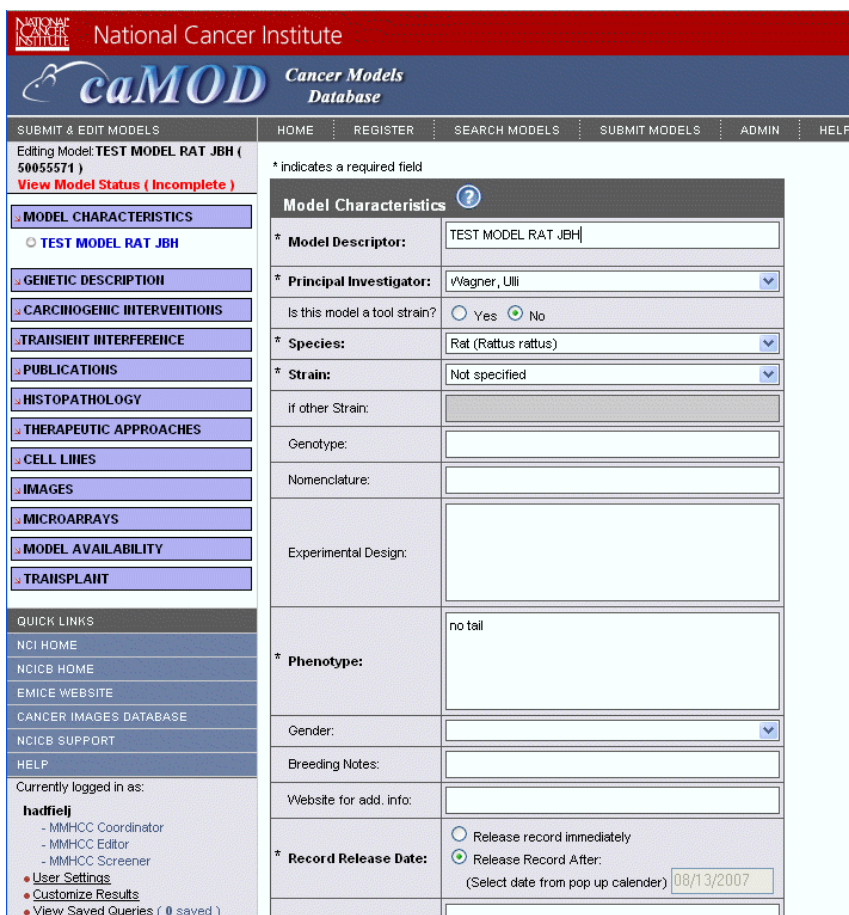
Editing Data

A model submitter or PI can modify or delete a model they have previously submitted or have "ownership" of.

Note: Before editing a model, you may want to first make a copy of the model so that the original model data remains intact. To copy the model, on the Submit and Edit page, click the Duplicate Record icon () corresponding to the model you want to copy. The copied model is now added to the models list on the same page.

To edit a model, follow these steps:

1. On the Submit and Edit page, click the model name.
2. Open any underlined category under the Submit and Edit options on the left sidebar of the viewer window to modify existing information. For instance, click the **Model Characteristics** option. Click the model name under that category. This opens the Model Characteristics page, where you can perform your edits (*Figure 3.4*).




The screenshot displays the 'Model Characteristics' page for the model 'TEST MODEL RAT JBH' (ID: 50055571). The page is part of the National Cancer Institute's caMOD Cancer Models Database. The left sidebar contains a list of categories: MODEL CHARACTERISTICS, GENETIC DESCRIPTION, CARCINOGENIC INTERVENTIONS, TRANSIENT INTERFERENCE, PUBLICATIONS, HISTOPATHOLOGY, THERAPEUTIC APPROACHES, CELL LINES, IMAGES, MICROARRAYS, MODEL AVAILABILITY, and TRANSPLANT. The 'MODEL CHARACTERISTICS' category is selected. The main content area shows the following fields:

- Model Descriptor:** TEST MODEL RAT JBH
- Principal Investigator:** Wagner, Ulli
- Is this model a tool strain?** Yes (radio button), No (radio button, selected)
- Species:** Rat (Rattus rattus)
- Strain:** Not specified
- if other Strain:** (text input field)
- Genotype:** (text input field)
- Nomenclature:** (text input field)
- Experimental Design:** (text input field)
- Phenotype:** no tail
- Gender:** (dropdown menu)
- Breeding Notes:** (text input field)
- Website for add. info:** (text input field)
- Record Release Date:** Release record immediately (radio button), Release Record After: (radio button, selected) (Select date from pop up calendar) 08/13/2007

The page also includes a 'SUBMIT & EDIT MODELS' section with links to HOME, REGISTER, SEARCH MODELS, SUBMIT MODELS, ADMIN, and HELP. A 'QUICK LINKS' section provides shortcuts to NCI HOME, NCICB HOME, EMICE WEBSITE, CANCER IMAGES DATABASE, NCICB SUPPORT, and HELP. The user is logged in as 'hadfield' with roles: MMHCC Coordinator, MMHCC Editor, and MMHCC Screener. There are links for User Settings, Customize Results, and View Saved Queries (0 saved).

Figure 3.4 On any model you "own", you can edit data on any of the category pages accessible for the model.

When you return to a specific submission page to edit your previously entered data, you can choose to delete any particular part of a record, such as one specific publication or one specific transgene.

3. Click any categories to add new information for the model. Click **Submit** to execute the submission.
4. You can also, as the model owner, choose to remove a model from caMOD. On the Submit and Edit Models page, click the **Remove** icon () corresponding to the model you want to remove.

Model Characteristics

To enter or edit general information for an animal model,

1. After you have logged into caMOD, the Submit and Edit Models page opens. If you click the **Add New Model** red hypertext link, the Model Characteristic form opens for you to add information about the new model.

OR

1. Click **Model Characteristics** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have click the (model) **Submit** button in other caMOD viewers.
2. Enter or select the appropriate information about your animal model in the text entry fields. Items that are bold and have an asterisk are required fields.

Note: You must click the **Submit** button after you have entered the appropriate information for the model. You do not need to finalize the entry in one session. The next time you log in, the model on which you are working will be listed. Click on the model name to open the Model Characteristics page once again, where you can continue the submission. The model should remain "incomplete" until you have entered all of the data.

Model Characteristics text fields are described in [Table 3.2](#) :

| Model Characteristics Text Fields | Description |
|--|--|
| *Model descriptor | Model descriptor is the commonly used name for the model. It can even be a "nick name" for the model (e.g. conditional BrCa1 knockout). In some cases the model name might be the same as the genotype (e.g. Wap-Cre). The program accepts multiple models with the same name (like Melanoma model). The record is identified by an unique number and not by the name. The search will eventually pull up all records that match certain criteria. |
| *Principal Investigator | Select the name of the Principal Investigator from the drop-down menu. |

Table 3.2 Model Characteristics fields and their descriptions

| Model Characteristics Text Fields | Description |
|--|---|
| Is this model a tool strain? | Answer Yes or No . (A tool strain is a model strain that develops no tumors, for example, Cre-expressing strains or strains carrying one or more floxed genes. A tool strain is used to create tumor-bearing strains, such as conditional knockouts.) |
| *Species | Select genus and species of the model from the drop-down list. Note: If you use an animal that is not listed, contact NCICB Application Support immediately so that we can consider adding the species. |
| *Strain | Strain is a specific breeding population of mice, including inbred strains, progeny of specific genetic crosses, or a mixed population of mice with partially known or unknown genetic background. |
| If Other Strain | Enter the specific strain information, if it is not listed in the Strain drop-down menu. Note: This field is only writable after you select Other in the previous field. |
| Developmental Stage | This field displays only if the model you select is a zebrafish. From the drop-down list, select the stage that corresponds to the model being submitted. Note: The options for this field on this page are described in five very general terms, contributing to an overview for the model. For more detailed descriptions derived from a Developmental Stage data tree, see Therapy on page 82. |
| Genotype | List the genetic changes made deliberately in order to generate the animal model. |
| Nomenclature | Enter the appropriate nomenclature for the model. Nomenclature names for mouse and rat strains follow the guidelines established by the International Committee on Standardized Genetic Nomenclature for Mice and are implemented through the Mouse Genomic Nomenclature Committee (MGNC). For details see http://www.informatics.jax.org/mgihome/nomen/index.shtml |
| Experimental Design | The Experimental Design describes how a model was generated. This is especially important for GEM. <i>Example:</i> "The 4.5 kb 5' flanking region of the C3(1) component of rat prostatin was utilized to target expression for SV40 Tag to the prostate epithelium." |
| *Phenotype | The field Phenotype asks for a general description of the phenotype, which is the manifestation of a genetic trait. <i>Example:</i> Expression of the SV40 early region in the mammary and prostate epithelium leads to invasive carcinoma development over a predictable time course. The transgene is expressed in mammary ductal cells and the terminal ductal lobular unit in virgin animals and without hormone stimulation. |
| Gender | Select Gender information from the drop-down menu. |

Table 3.2 Model Characteristics fields and their descriptions

| Model Characteristics Text Fields | Description |
|--|---|
| Breeding Notes | Enter information about breeding problems or other issues related to the breeding of this model, for example, infertility in males. Information about homo- or heterozygosity can also be stored in this field. This information is especially valuable when the strain is kept heterozygous, but the phenotype occurs only in homozygous mice. |
| Website for added information: | Add a website URL where more information about the experiment(s) and/or models can be obtained. |
| *Record Release Date | The date when the models records are to be released: You can choose between: Option 1: The record will be shown immediately. Option 2: The record will be shown after a specified date. Select the date from the calendar that pops up when you select the radio button. Note: The record must be approved before it will be displayed. NCICB will contact the submitter of the record about a week prior to the release date and confirm the date. If we do not receive a response from the submitter the record will not be displayed. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.2 Model Characteristics fields and their descriptions

3. Click the **Submit** button to execute the submission of the model information.
4. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Navigating a Data Tree

In many of the caMOD pages where you enter data for a model you are submitting, you can click a **Select** button which opens a data tree (independent of caMOD)

corresponding to the parameter associated with the **Select** button. For example, in the *Cell Lines* page, a **Select** button opens the Organ/Tissue data tree (*Figure 3.5*).

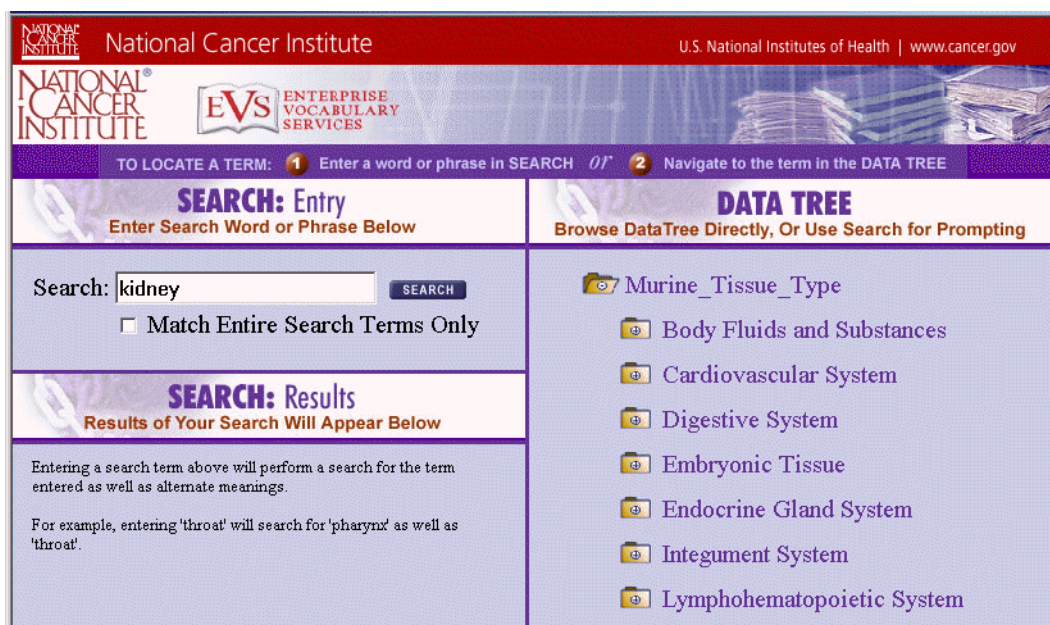




Figure 3.5 EVS Data Tree

To navigate a data tree:

1. Click the **Folder** icon () corresponding to a organ or tissue type or to a diagnosis to access items within the folder.
2. Click the sub-category words. When you see this icon, (), you have located the basic level of the directory.
3. Click on your selection, and confirm the select by clicking **OK** in the confirmation dialog box that opens. When you do that, your Organ/Tissue/Diagnosis selection appears in the caMOD form from which you accessed the data tree.

To initiate a search in the data tree:

1. Enter a term in the Search:Entry section in the upper left quadrant of the EVS Data Tree page.
2. Click **Search** to query the tree.

The search results display in the lower bottom-left corner of the data tree viewing window (*Figure 3.6*).

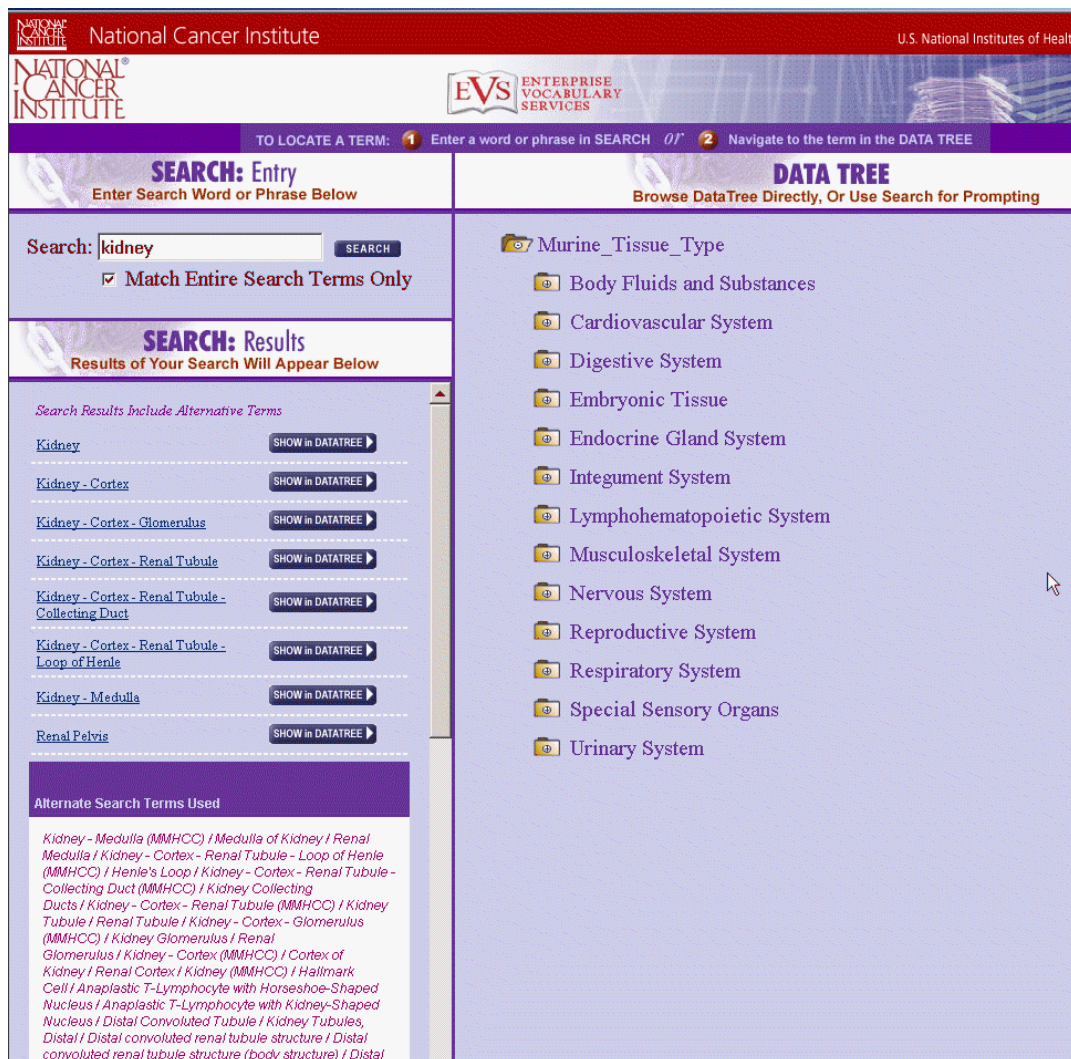


Figure 3.6 Data Tree search results

3. In the Search Results list, click a term directly to select it and return to the caMOD submission page, or click the **Show** button to open the Data Tree section on the right of the EVS Data Tree page. The data link you selected in the Search Results list displays open on the data tree in its position related to all other items listed on the Data Tree.

Notes about Data Tree Searches:

- By default, the data tree performs searches for synonyms. For example, a search for "throat" returns the term "pharynx" as a match.
- If you perform a search for a diagnosis and receive no results, you can submit a term to the database. Click the **Submit** button in the bottom left-hand corner of the Search Results section. In the dialog box that opens, enter the diagnosis term to be submitted and click **OK**. The term is stored in the caMOD database and will be sent to the Vocabulary team to be considered for permanent inclusion in the EVS. This feature exists only for diagnosis and not for anatomy.

- For more information, see topics corresponding to data submission pages with the Organ/Tumor/Diagnosis options.

Genetic Description

Genetic description captures information about germ line mutations (which can be inherited by the next generation). In comparison, the [Carcinogenic Interventions](#) capture information about changes in the animals that are not heritable.

Transgene

To enter or edit the genetic description of the transgene for the animal model:

- Click **Genetic Description** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
- Click the **Enter Transgene** red hypertext link. This opens the Transgene form.
- Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| <i>Transgene Text Fields</i> | <i>Description</i> |
|--|--|
| Transgene <ul style="list-style-type: none"> *Integration Location of Integration | Select the Random or Targeted radio button. Enter the locus for targeted integration, if you selected Targeted . |
| Transgene (Coding Sequence Only) <ul style="list-style-type: none"> *Transgene | Enter the Transgene name. Species of Origin --select from drop-down menu Enter Other Species , if relevant |
| Transcriptional Promoter <ul style="list-style-type: none"> *Transcriptional 1 Transcriptional 2 Transcriptional 3 Poly A Signal Splice Sites/Intron | For each, list the part of the Transgene construct, then select from the drop-down list, the Species of Origin or enter the Other Species of Origin if the correct one is not in the drop-down list. <i>Examples:</i> For the Promoter 'promoter of the whey acidic protein (WAP)', species: mouse'; for Poly-A site 'Poly-A site of beta-globin gene, species: rabbit. |
| Gene Functions (separate each by a comma) | List the function(s) of the mutated gene. |
| Conditional | The Conditional descriptor refers to a transgene that is only turned on under specific circumstances. Select a Conditional or No Conditional radio button. |
| Conditional Description | Enter a description of the Conditional circumstance, particularly specifying the conditions under which the transgene is active. Specify the promoter, the affected organs and the timepoint, where appropriate. |

Table 3.3 Transgene fields and their descriptions

| Transgene Text Fields | Description |
|------------------------------|--|
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |
| ZFIN Identifier | This field displays only if the model you select is a zebrafish. Enter the zebrafish (ZFIN) identifier of the modified allele which must include the prefix “ZDB-GENO-”. <i>Example:</i> ZDB-GENO-050428-1. Click Find ZFIN ID to open the ZFIN website where you can learn more about the zebrafish, including the ZFIN ID for your model. |
| MGI Number | This field displays only if the model you select is a mouse. Enter the Mouse Genome Informatics (MGI) ID for this mutation. You must copy and paste the entire MGI ID (including “MGI”) into this field. <i>Example:</i> MGI:2180054 Click Find MGI ID to open the MGI website where you can learn more about the MGI, including the MGI ID for your model. |
| RGD Identifier | This field displays only if the model you select is a rat. Enter the Rat Genome Database (RGD) ID for this mutation. Enter the number only. Note: You can copy and paste the RGD reference ID <i>number segment only</i> into this field. Do not copy and paste the prefix “RGD”. <i>Example:</i> 70417. Click Find RGD ID to open the RGD website where you can learn more about the RGD, including the RGD ID for your model. |

Table 3.3 Transgene fields and their descriptions

- Under the gray line in the Transgene form, select or enter the requested information about the model construct, if you decide to upload a map of the construct. For more information, see the following section, [Model Construct](#).
- Click the **Submit** button to execute the submission of the model information.
- Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Model Construct

Several caMOD forms for entering genetic description(s) of your model include a segment requesting information about the model construct. The requested information is summarized in [Table 3.4](#):

| Model Construct Fields | Description |
|---------------------------------|---|
| Upload Construct Map | The construct map image can be uploaded here. Acceptable image file formats are: .jpg, .jpeg, .gif, .sid or .png. Use the Browse button to navigate to the image file on your computer. |
| Title of Construct | Enter the construct title (only necessary when you are uploading the image). |
| Description of Construct | Enter a description of the construct (only necessary when you are uploading the image). |

| Model Construct Fields | Description |
|-------------------------------|--|
| Construct Sequence | Add the sequence of the construct. This allows users to use sequence editing software. |

Table 3.4 Construct fields for entering a genetic description for your model

Associated Expression

Once you have submitted data to the Transgene, Genomic Segment or the Targeted Modification pages, the entry is listed under the Transgene, Genomic Segment or the Targeted Modification categories in the Submit and Edit Models listing on the left-hand side of the browser. The **Enter Associated Expression** option displays (in brown text, indicating an active option) under the entered item.

To enter or edit associated expression for a model:

1. Click **Enter Assoc[iated] Expression**.
2. Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Associated Expression Fields | Description |
|-------------------------------------|---|
| Organ/Tissue | <p>The available options correspond to the donor species you specified for this model.</p> <ul style="list-style-type: none"> • If the Select button displays (Mouse, Rat or Zebrafish), click it to open an Organ/Tissue data tree that corresponds to the donor species. Select from the vocabulary tree the Organ or Tissue in which the transgene, the genomic segment or targeted modification was found. • If no Select button displays, enter the Organ or Tissue in the text field. |
| Expression Level | Select from the list of expression descriptions in the drop-down menu how the transgene, the genomic segment or the targeted modification affected the expression level. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.5 Associated Expression fields and their descriptions

3. Click the **Submit** button to execute the submission of the model information.
4. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Genomic Segment

To enter or edit the genomic segment information for an animal model:

1. Click **Genetic Description** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Genomic Segment** red hypertext link. This opens the Genomic Segment form.
3. Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Genomic Segment Text Fields | Description |
|---|---|
| *Integration Location of Integration | Select the Random or Targeted radio button, indicating whether the integration of the genomic segment was random or targeted. If you selected Targeted [Integration], enter the location of integration of the genomic segment into the genome (i.e. chromosome locus). |
| *Segment Type | Select the Segment Type from the drop-down list: Cosmid, YAC, BAC or Plasmid; If the appropriate Segment Type is not listed, select Other from the drop-down list and enter the Other Segment Type in the text field under the list. |
| Other Segment Type | Enter Segment Type that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Segment Size | Enter appropriate segment size information. |
| *Designator | Clone Designator: Indicate the location of the clone in the library, <i>for example</i> , RPCI Human Male Library, 24F11. |
| Comment | Enter any information that did not fit or was not suitable for other fields on the page. |
| ZFIN Identifier | This field displays only if the model you select is a zebrafish. Enter the zebrafish (ZFIN) identifier of the modified allele which must include the prefix "ZDB-GENO-". <i>Example:</i> ZDB-GENO-050428-1. Click Find ZFIN ID to open the ZFIN website where you can learn more about the zebrafish, including the ZFIN ID for your model. |
| MGI Number | This field displays only if the model you select is a mouse. Enter the Mouse Genome Informatics (MGI) ID for this mutation. You must copy and paste the entire MGI ID (including "MGI") into this field. <i>Example:</i> MGI:2180054 Click Find MGI ID to open the MGI website where you can learn more about the MGI, including the MGI ID for your model. |

Table 3.6 Genomic Segment fields and their descriptions

| Genomic Segment Text Fields | Description |
|------------------------------------|--|
| RGD Identifier | This field displays only if the model you select is a rat. Enter the Rat Genome Database (RGD) ID for this mutation. Enter the number only. Note: You can copy and paste the RGD reference ID <i>number segment only</i> into this field. Do not copy and paste the prefix "RGD". <i>Example:</i> 70417. Click Find RGD ID to open the RGD website where you can learn more about the RGD, including the RGD ID for your model. |

Table 3.6 Genomic Segment fields and their descriptions

- Under the gray line in the Genomic Segment form, select or enter the requested information about the model construct, if you decide to upload a map of the construct. For more information, see [Model Construct](#) on page 45.
- Click the **Submit** button to execute the submission of the model information.
- Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Targeted Modification

To enter or edit the Targeted Modification information for an animal model:

- Click **Genetic Description** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
- Click the **Enter Targeted Modification** red hypertext link. This opens the Targeted Modification form.
- Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Targeted Modification Text Fields | Description |
|--|--|
| *Targeted Gene/Locus | Define the gene or region in the genome that are altered by the substitution of a DNA construct. |

Table 3.7 Targeted Modification fields and their descriptions

| Targeted Modification Text Fields | Description |
|--|---|
| *Type of Modification | <p>Select one or more mutation types from the drop-down menu.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Null Modification--a type of modification in which the altered gene product lacks the molecular function of the wild-type gene • Amino Acid--modification that alters one or more amino acids • Insertion--insertion of one or more residues in the molecular structure • Missense--a codon specifying one amino acid altered so as to specify a different amino acid <p>Note: For this field, you can select multiple choices using standard selection techniques (CTRL + click or Command + click with a Macintosh).</p> <p>If one of your choices is not listed, select Other from the drop-down list and enter the Other Modification Type in the text field under the list.</p> |
| Other Modification Type | Describe any appropriate type of modification. Note: This field is only writable after you select Other in the previous field. |
| Entrez Gene ID | Enter gene Entrez ID number. Click the Find Gene ID button for a link to Entrez where you can locate the ID. |
| Genetic Background | <p>Enter the appropriate information regarding the genetic background.</p> <p>ES Cell Line: The name of the Embryonic Stem Cell line that was used to insert the DNA construct with the alteration. When incorporated into chimeric mouse embryos, they are totipotent: they can differentiate into any cell type in the mouse.</p> <p>Blastocyst: Strain background of the blastocysts in which the modification-carrying ES cells were inserted.</p> |
| Conditional? | Select the Conditional or Not Conditional radio button. |
| Conditional Description | <p>Where appropriate, enter the description of the strategy to generate a conditional modification.</p> <p>Conditional modification is most commonly used to represent Cre-mediated excision of genomic sequences flanked by loxP sites. The excised genotype, which is often associated with a phenotype, is dependent (or conditional) on the presence of the Cre-expressing construct.</p> |
| Comment | Enter any information that did not fit or was not suitable for other fields on the page. |
| ZFIN Identifier | <p>This field displays only if the model you select is a zebrafish. Enter the zebrafish (ZFIN) identifier of the modified allele which must include the prefix "ZDB-GENO-". <i>Example:</i> ZDB-GENO-050428-1.</p> <p>Click Find ZFIN ID to open the ZFIN website where you can learn more about the zebrafish, including the ZFIN ID for your model.</p> |

Table 3.7 Targeted Modification fields and their descriptions

| Targeted Modification Text Fields | Description |
|--|---|
| MGI Number | This field displays only if the model you select is a mouse. Enter the Mouse Genome Informatics (MGI) ID for this mutation. You must copy and paste the entire MGI ID (including "MGI") into this field. <i>Example:</i> MGI:2180054 Click Find MGI ID to open the MGI website where you can learn more about the MGI, including the MGI ID for your model. |
| RGD Identifier | This field displays only if the model you select is a rat. Enter the Rat Genome Database (RGD) ID for this mutation. Enter the number only. Note: You can copy and paste the RGD reference ID <i>number segment only</i> into this field. Do not copy and paste the prefix "RGD". <i>Example:</i> 70417 Click Find RGD ID to open the RGD website where you can learn more about the RGD, including the RGD ID for your model. |

Table 3.7 Targeted Modification fields and their descriptions

- Under the gray line on the Targeted Modification form, select or enter the requested information about the model construct, if you decide to upload a map of the construct. For more information, see [Model Construct](#) on page 45.
- Click the **Submit** button to execute the submission of the model information.
- Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Induced Mutation

The "induced mutation" page gathers information about mutations that were triggered by chemicals, radiation or other types of mutagenes and that become hereditary.

To enter or edit the Induced Mutation information for an animal model:

- Click **Genetic Description** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
- Click the **Enter Induced Mutation** red hypertext link. This opens the Induced Mutation form.
- Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Induced Mutation Text Fields | Description |
|-------------------------------------|--|
| *Name of Inducing Agent | Enter the name of the agent inducing the mutation. |

Table 3.8 Induced Mutation fields and their descriptions

| Induced Mutation Text Fields | Description |
|-------------------------------------|--|
| *Inducing Agent Category | Inducing agent is that which caused the mutation. Select the agent category from the drop-down list or select Other and enter an agent category not found in the drop-down list in the following text box. |
| Other Category | Enter the Induced Mutation Category that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| CAS Number | Enter the Chemical Abstracts Service (CAS) number for a chemical or drug. Use the provided hypertext link (Find CAS#) to find the CAS number. Copy the number and paste into the field on the caMOD Chemical/Drug page. Note: You can also retrieve the CAS number from the DTP page described in the previous row of this table. It will display with the NSC number on the Chemical/Drug page. |
| Entrez Gene ID | Enter the Gene Entrez ID number. Click the Find ID button for a link to Entrez where you can locate the ID. |
| Description | Describe in the text field how the mutation was induced. |
| Observation | Note the genetic mutations that were observed. |
| Method of Observation | Explain how you learned about the gene(s) that were modified? Note: This field becomes writable only after you have entered information in the Observation field. |
| ZFIN Identifier | This field displays only if the model you select is a zebrafish. Enter the zebrafish (ZFIN) identifier of the modified allele which must include the prefix "ZDB-GENO-". <i>Example:</i> ZDB-GENO-050428-1. Click Find ZFIN ID to open the ZFIN website where you can learn more about the zebrafish, including the ZFIN ID for your model. |
| MGI Number | This field displays only if the model you select is a mouse. Enter the Mouse Genome Informatics (MGI) ID for this mutation. You must copy and paste the entire MGI ID (including "MGI") into this field. <i>Example:</i> MGI:2180054 Click Find MGI ID to open the MGI website where you can learn more about the MGI, including the MGI ID for your model. |
| RGD Identifier | This field displays only if the model you select is a rat. Enter the Rat Genome Database (RGD) ID for this mutation. Enter the number only. Note: You can copy and paste the RGD reference ID <i>number segment only</i> into this field. Do not copy and paste the prefix "RGD". <i>Example:</i> 70417. Click Find RGD ID to open the RGD website where you can learn more about the RGD, including the RGD ID for your model. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.8 Induced Mutation fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Spontaneous Mutation

To enter or edit the Spontaneous Mutation information for an animal model:

1. Click **Genetic Description** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Spontaneous Mutation** red hypertext link. This opens the Spontaneous Mutation form.
3. Enter or select the appropriate information about your animal model in the text entry fields.

| Spontaneous Mutation Text Fields | Description |
|---|---|
| Gene Name* | Enter the name of the gene in which the spontaneous mutation occurred. |
| Observation | Note the genetic changes that were observed. |
| Method of Observation | Specify the method(s) used to discover the genetic changes. Include the technology and the tests that were used. Note: This field becomes writable only after you have entered information in the Observation field. |
| Entrez Gene ID | Enter the Gene Entrez ID number. Click the Find ID button for a link to Entrez where you can locate the ID. |
| ZFIN Identifier | This field displays only if the model you select is a zebrafish. Enter the zebrafish (ZFIN) identifier of the modified allele which must include the prefix "ZDB-GENO-". <i>Example:</i> ZDB-GENO-050428-1. Click Find ZFIN ID to open the ZFIN website where you can learn more about the zebrafish, including the ZFIN ID for your model. |
| MGI Number | This field displays only if the model you select is a mouse. Enter the Mouse Genome Informatics (MGI) ID for this mutation. You must copy and paste the entire MGI ID (including "MGI") into this field. <i>Example:</i> MGI:2180054 Click Find MGI ID to open the MGI website where you can learn more about the MGI, including the MGI ID for your model. |

Table 3.9 Spontaneous Mutation fields and their descriptions

| Spontaneous Mutation Text Fields | Description |
|---|--|
| RGD Identifier | This field displays only if the model you select is a rat. Enter the Rat Genome Database (RGD) ID for this mutation. Enter the number only. Note: You can copy and paste the RGD reference ID <i>number segment only</i> into this field. Do not copy and paste the prefix “RGD”. <i>Example:</i> 70417. Click Find RGD ID to open the RGD website where you can learn more about the RGD, including the RGD ID for your model. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.9 Spontaneous Mutation fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Carcinogenic Interventions

Carcinogenic interventions capture information about changes in the animals that are not heritable. In contrast, [Genetic Description](#) captures information about germ line mutations (which can be inherited by the next generation).

Data submitted to the carcinogenic interventions pages describe treatments that are designed to trigger or accelerate tumor development. All treatments intended to prevent, slow down, or otherwise treat cancerous growth should be submitted as therapeutic experiments. See [Therapy](#) for more information.

Antibody

To enter or edit an antibody used for an animal model:

1. Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Antibody** red hypertext link. This opens the Antibody form.
3. Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Antibody Fields | Description |
|------------------------|---|
| *Antibody | Select the Antibody from the drop-down list. If the appropriate antibody is not listed, select Other from the drop-down list and enter the Other Antibody in the text field under the list. |

Table 3.10 Antibody fields and their descriptions

| Antibody Fields | Description |
|-----------------------------------|---|
| Other Antibody | Enter an Antibody that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Dose | Enter the dose of the antibody given. Select the dosage units from the drop-down menu. Note: If the dose unit you are looking for is not available in the drop down list, manually enter the dose unit together with the amount in the text field. When you return to the page, your dose unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the dose unit information, you must delete the current dose unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new dose unit entry will be added to the old entry. |
| Administrative Route | Select the course in which a antibody was administered to reach the site of action in the body. If the appropriate route is not listed, select Other from the drop-down list and enter the Other Administrative Route in the text field under the list. |
| Other Administrative Route | Enter the Administrative Route that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Treatment Regimen | Enter times and intervals in which the treatment was administered. |
| Age at Treatment | Enter age information in the text box and from the drop-down list. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Gender | Select gender from the drop-down list. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.10 Antibody fields and their descriptions

- Click the **Submit** button to execute the submission of the model information.
- Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Bacteria

To enter or edit a bacteria used for an animal model:

- Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu

options only display after you have clicked the (model) Submit button in other caMOD viewers.

2. Click the **Enter Bacteria** red hypertext link. This opens the Bacteria form.
3. Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Bacteria Fields | Description |
|-----------------------------------|---|
| *Bacteria | Select the Bacteria from the drop-down list. If the appropriate Hormone is not listed, select Other from the drop-down list and enter the Other Bacteria in the text field under the list. |
| Other Bacteria | Enter a Bacteria that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Dose | Enter the dose of the bacteria given. Select the dosage units from the drop-down menu. Note: If the dose unit you are looking for is not available in the drop down list, manually enter the dose unit together with the amount in the text field. When you return to the page, your dose unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the dose unit information, you must delete the current dose unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new dose unit entry will be added to the old entry. |
| Administrative Route | Select the course in which a bacteria was administered to reach the site of action in the body. If the appropriate route is not listed, select Other from the drop-down list and enter the Other Administrative Route in the text field under the list. |
| Other Administrative Route | Enter the Administrative Route that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Treatment Regimen | Enter times and intervals in which the treatment was administered. |
| Age at Treatment | Enter age information in the text box and from the drop-down list. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Gender | Select gender from the drop-down list. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.11 Bacteria fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.

- Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Chemical/Drug

To enter or edit a chemical or drug used for an animal model:

- Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
- Click the **Enter Chemical/Drug** red hypertext link. This opens the Chemical/Drug form.
- Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Chemical/Drug Fields | Description |
|-----------------------------|--|
| *Chemical/Drug | Select the Chemical or Drug from the drop-down list. If the appropriate Chemical/Drug is not listed, select Other from the drop-down list and enter the Other Chemical/Drug in the text field under the list. |
| Other Chemical/Drug | Enter a chemical or dDrug that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Dose/Units | Enter the dose of the chemical agent or drug given. Select the dosage units from the drop-down menu. Note: If the dose unit you are looking for is not available in the drop down list, manually enter the dose unit together with the amount in the text field. When you return to the page, your dose unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the dose unit information, you must delete the current dose unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new dose unit entry will be added to the |

Table 3.12 Chemical/Drug fields and their descriptions

| Chemical/Drug Fields | Description |
|-----------------------------------|---|
| NSC number | <p>Enter the NSC number in the text box. The NSC number is a unique drug identifier issued by the Nomenclature Standards Committee (NSC) of the U.S Food and Drug Administration.</p> <ul style="list-style-type: none"> • If you don't know the number, click the Find NSC# button. The button opens a page at the Developmental Therapeutics Program (DTP) at NCI which allows you to find the NSC number for a specific drug. • On the DTP page, select Chemical Name Starts or Chemical Name Number. (By default, the radio button is set to find the NSC number.) • Enter text in the Search Parameters field, and click Submit. • Once you have found the NSC number, copy the number from the field onto the field on the caMOD Chemical/Drug page. |
| CAS number | <p>Enter the Chemical Abstracts Service (CAS) number for a chemical or drug. Use the provided hypertext link (Find CAS#) to find the CAS number. Copy the number and paste into the field on the caMOD Chemical/Drug page.</p> <p>Note: You can also retrieve the CAS number from the DTP page described in the previous row of this table. It will display with the NSC number on the Chemical/Drug page.</p> |
| Administrative Route | Select the course in which a drug was administered in order to reach the site of action in the body. If the appropriate route is not listed, select Other from the drop-down list and enter the Other Administrative Route in the text field under the list. |
| Other Administrative Route | Enter Administrative Route that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Treatment Regimen | Enter times and intervals in which the treatment was administered. |
| Age at Treatment | <p>Enter age information in the text box and from the drop-down list.</p> <p>Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry.</p> |
| Gender | Select gender from the drop-down list. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.12 Chemical/Drug fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing

data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Environmental Factor

To enter or edit an environmental factor used for an animal model:

1. Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Environmental Factor** red hypertext link. This opens the Environmental Factor form.
3. Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Environmental Factor Fields | Description |
|------------------------------------|--|
| *Environmental Factor | Select the appropriate Environmental Factor from the drop-down list. If the appropriate Environmental Factor is not listed, select Other from the drop-down list and enter the Other Environmental Factor in the text field under the list. |
| Other Environmental Factor | Enter an Environmental Factor that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Dose | Enter the dose of the agent given. Select the dosage units from the drop-down menu. Note: If the dose unit you are looking for is not available in the drop down list, manually enter the dose unit together with the amount in the text field. When you return to the page, your dose unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the dose unit information, you must delete the current dose unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new dose unit entry will be added to the old entry. |
| Administrative Route | Select the course in which the environmental factor was administered in order to reach the site of action in the body. If the appropriate route is not listed, select Other from the drop-down list and enter the Other Administrative Route in the text field under the list. |
| Other Administrative Route | Enter Administrative Route that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Treatment Regimen | Enter times and intervals in which the treatment was administered. |

Table 3.13 Environmental factor fields and their descriptions

| Environmental Factor Fields | Description |
|------------------------------------|--|
| Age at Treatment | Enter age information in the text box and from the drop-down list. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Gender | Select the gender from the drop-down list. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.13 Environmental factor fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Gene Delivery

To enter or edit the gene delivery used for an animal model:

1. Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Gene Delivery** red hypertext link. This opens the Gene Delivery form.
3. Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Gene Delivery Fields | Description |
|-----------------------------|---|
| *Viral Vector | From the drop-down list, select the Viral Vector used to deliver the gene. If the appropriate Viral Vector is not listed, select Other from the drop-down list and enter the Other Viral Vector in the corresponding text field. |
| Other Viral Vector | Enter a viral vector that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| *Gene | Enter the effective gene delivered by the viral vector. |
| Treatment Regimen | Enter times and intervals in which the treatment was administered. |

Table 3.14 Gene Delivery fields and their descriptions

| Gene Delivery Fields | Description |
|-----------------------------|---|
| Injection Site | Click the Select button. Select from the organ/tissue vocabulary tree that opens the organ or tissue used as the location of delivery for this gene. |
| Age at Treatment | Enter animal age information in the text box and from the drop-down list. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.14 Gene Delivery fields and their descriptions

- Click the **Submit** button to execute the submission of the model information.
- Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Growth Factor

To enter or edit a growth factor used for an animal model:

- Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
- Click the **Enter Growth Factor** red hypertext link. This opens the Growth Factor form.
- Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Growth Factor Fields | Description |
|-----------------------------|--|
| *Growth Factor | Select the Growth Factor from the drop-down list. If the appropriate growth factor is not listed, select Other from the drop-down list and enter the Other Growth Factor in the corresponding text field. |
| Other Growth Factor | Enter the Growth Factor that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |

Table 3.15 Growth factor fields and their descriptions

| Growth Factor Fields | Description |
|-----------------------------------|--|
| Dose | Enter the dose of the growth factor given. Select the dosage units from the drop-down menu. Note: If the dose unit you are looking for is not available in the drop down list, manually enter the dose unit together with the amount in the text field. When you return to the page, your dose unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the dose unit information, you must delete the current dose unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new dose unit entry will be added to the old entry. |
| Administrative Route | Select the course in which a growth factor was administered in order to reach the site of action in the body. If the appropriate Administrative Route is not listed, select Other from the drop-down list and enter the Other Administrative Route in the corresponding text field. |
| Other Administrative Route | Enter the Administrative Route that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Treatment Regimen | Enter times and intervals in which the treatment was administered. |
| Age at Treatment | Enter age information in the text box and from the drop-down list. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Gender | Select gender from the drop-down list. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.15 Growth factor fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Hormone

To enter or edit a hormone used for an animal model:

1. Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) Submit button in other caMOD viewers.

- Click the **Enter Hormone** red hypertext link. This opens the Hormone form.
- Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Hormone Fields | Description |
|-----------------------------------|--|
| *Hormone | Select the Hormone from the drop-down list. If the appropriate Hormone is not listed, select Other from the drop-down list and enter the Other Hormone in the text field under the list. |
| Other Hormone | Enter a Hormone that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Dose | Enter the dose of the hormone given. Select the dosage units from the drop-down menu. Note: If the dose unit you are looking for is not available in the drop down list, manually enter the dose unit together with the amount in the text field. When you return to the page, your dose unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the dose unit information, you must delete the current dose unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new dose unit entry will be added to the old entry. |
| Administrative Route | Select the course in which a hormone was administered to reach the site of action in the body. If the appropriate route is not listed, select Other from the drop-down list and enter the Other Administrative Route in the text field under the list. |
| Other Administrative Route | Enter the Administrative Route that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Treatment Regimen | Enter times and intervals in which the treatment was administered. |
| Age at Treatment | Enter age information in the text box and from the drop-down list. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Gender | Select gender from the drop-down list. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.16 Hormone fields and their descriptions

- Click the **Submit** button to execute the submission of the model information.
- Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing

data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Nutritional Factor

To enter or edit a nutritional factor used for an animal model:

1. Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Nutritional Factor** red hypertext link. This opens the Nutritional Factor form.
3. Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Nutritional Factor Fields | Description |
|----------------------------------|---|
| *Nutritional Factor | Select the appropriate Nutritional Factor from the drop-down list. If the appropriate Nutritional Factor is not listed, select Other from the drop-down list and enter the Other Nutritional Factor in the text field under the list. |
| Other Nutritional Factor | Enter Nutritional Factor that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Dose | Enter the dose of the nutritional factor given. Select the dosage units from the drop-down menu. Note: If the dose unit you are looking for is not available in the drop down list, manually enter the dose unit together with the amount in the text field. When you return to the page, your dose unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the dose unit information, you must delete the current dose unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new dose unit entry will be added to the old entry. |
| Treatment Regimen | Enter times and intervals in which the treatment was administered. |
| Age at Treatment | Enter age information in the text box and from the drop-down list. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Gender | Select gender from the drop-down list. |

Table 3.17 Nutritional factor fields and their descriptions

| Nutritional Factor Fields | Description |
|----------------------------------|---|
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.17 Nutritional factor fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Plasmid

To enter or edit a plasmid used for an animal model:

1. Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) Submit button in other caMOD viewers.
2. Click the **Enter Plasmid** red hypertext link. This opens the Plasmid form.
3. Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Plasmid Fields | Description |
|-----------------------------|---|
| *Plasmid | Select the Plasmid from the drop-down list. If the appropriate plasmid is not listed, select Other from the drop-down list and enter the Other Plasmid in the text field under the list. |
| Other Plasmid | Enter a plasmid that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Dose | Enter the dose of the plasmid used. Select the dosage units from the drop-down menu. Note: If the dose unit you are looking for is not available in the drop down list, manually enter the dose unit together with the amount in the text field. When you return to the page, your dose unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the dose unit information, you must delete the current dose unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new dose unit entry will be added to the old entry. |
| Administrative Route | Select the course in which a plasmid was administered to reach the site of action in the body. If the appropriate route is not listed, select Other from the drop-down list and enter the Other Administrative Route in the text field under the list. |

Table 3.18 Plasmid fields and their descriptions

| Plasmid Fields | Description |
|-----------------------------------|--|
| Other Administrative Route | Enter the Administrative Route that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Treatment Regimen | Enter times and intervals in which the treatment was administered. |
| Age at Treatment | Enter age information in the text box and from the drop-down list. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Gender | Select gender from the drop-down list. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.18 Plasmid fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Radiation

To enter or edit radiation used for an animal model:

1. Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Radiation** red hypertext link. This opens the Radiation form.
3. Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Radiation Fields | Description |
|-------------------------|---|
| *Radiation | Select the type of radiation from the drop-down list. If the appropriate Radiation is not listed, select Other from the drop-down list and enter the Other Radiation in the corresponding text field. |
| Other Radiation | Enter radiation that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |

Table 3.19 Radiation fields and their descriptions

| Radiation Fields | Description |
|-----------------------------------|--|
| Dose | Enter the dose of the radiation given. Select the dosage units from the drop-down menu. Note: If the dose unit you are looking for is not available in the drop down list, manually enter the dose unit together with the amount in the text field. When you return to the page, your dose unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the dose unit information, you must delete the current dose unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new dose unit entry will be added to the old entry. |
| Administrative Route | Select the course in which a drug was administered in order to reach the site of action in the body. If the appropriate route is not listed, select Other from the drop-down list and enter the Other Administrative Route in the corresponding text field. |
| Other Administrative Route | Enter Administrative Route that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Treatment Regimen | Enter times and intervals in which the treatment was administered. |
| Age at Treatment | Enter age information in the text box and from the drop-down list. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Gender | Select gender from the drop-down list. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.19 Radiation fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, Reset returns the form back to the unmodified state (the default).

Surgery

To enter or edit the surgery used for an animal model:

1. Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Surgery/Other** red hypertext link. This opens the Surgery form.

3. Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Surgery Fields | Description |
|--------------------------|---|
| *Surgery | Select the type of Surgery from the drop-down list. If the appropriate Surgery is not listed, select Other from the drop-down list and enter the Other Surgery in the text field under the list. |
| Other Surgery | Enter Surgery that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Treatment Regimen | Enter times and intervals in which the experiment and/or treatment was administered. |
| Age at Treatment | In the text box and from the drop-down list, enter the age of the model at the time of surgery. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Gender | Select gender from the drop-down list. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.20 Surgery fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Transposon

To enter or edit a transposon used for an animal model:

1. Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Transposon** red hypertext link. This opens the Transposon form.

3. Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Transposon Fields | Description |
|-----------------------------------|---|
| *Transposon | Select the Transposon from the drop-down list. If the appropriate Transposon is not listed, select Other from the drop-down list and enter the Other Transposon in the text field under the list. |
| Other Transposon | Enter Transposon that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Dose | Enter the dose of the transposon given. Select the dosage units from the drop-down menu. Note: If the dose unit you are looking for is not available in the drop down list, manually enter the dose unit together with the amount in the text field. When you return to the page, your dose unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the dose unit information, you must delete the current dose unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new dose unit entry will be added to the old entry. |
| Administrative Route | Select the course in which a transposon was administered to reach the site of action in the body. If the appropriate route is not listed, select Other from the drop-down list and enter the Other Administrative Route in the text field under the list. |
| Other Administrative Route | Enter the Administrative Route that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Treatment Regimen | Enter times and intervals in which the treatment was administered. |
| Age at Treatment | Enter age information in the text box and from the drop-down list. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Gender | Select gender from the drop-down list. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.21 Transposon fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Signaling Molecule

To enter or edit a signaling molecule used for an animal model:

1. Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) Submit button in other caMOD viewers.
2. Click the **Enter Signaling Molecule** red hypertext link. This opens the Signaling Molecule form.
3. Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| <i>Signaling Molecule Fields</i> | <i>Description</i> |
|-----------------------------------|---|
| *Signaling Molecule | Select the Signaling Molecule from the drop-down list. If the appropriate signaling molecule is not listed, select Other from the drop-down list and enter the Other Signaling Molecule in the text field under the list. |
| Other Signaling Molecule | Enter Signaling Molecule that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Dose | Enter the dose of the signaling molecule given. Select the dosage units from the drop-down menu. Note: If the dose unit you are looking for is not available in the drop down list, manually enter the dose unit together with the amount in the text field. When you return to the page, your dose unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the dose unit information, you must delete the current dose unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new dose unit entry will be added to the old entry. |
| Administrative Route | Select the course in which a signaling molecule was administered to reach the site of action in the body. If the appropriate route is not listed, select Other from the drop-down list and enter the Other Administrative Route in the text field under the list. |
| Other Administrative Route | Enter the Administrative Route that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Treatment Regimen | Enter times and intervals in which the treatment was administered. |

Table 3.22 Signaling Molecule fields and their descriptions

| Signaling Molecule Fields | Description |
|----------------------------------|--|
| Age at Treatment | Enter age information in the text box and from the drop-down list. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Gender | Select gender from the drop-down list. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.22 Signaling Molecule fields and their descriptions

- Click the **Submit** button to execute the submission of the model information.

Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Viral Treatment

To enter or edit the viral treatment for an animal model:

- Click **Carcinogenic Interventions** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
- Click the **Enter Viral Treatment** red hypertext link. This opens the Viral Treatment form.
- Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Viral Treatment Fields | Description |
|-------------------------------|--|
| *Virus | Select the Viral Treatment from the drop-down list. If the appropriate Virus is not listed, select Other from the drop-down list and enter the Other Virus in the text field under the list. |
| Other Virus | Enter Virus that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Administrative Route | Select the course in which a viral treatment was administered to reach the site of action in the body. If the appropriate route is not listed, select Other from the drop-down list and enter the Other Administrative Route in the text field under the list. |

Table 3.23 Viral fields and their descriptions

| Viral Treatment Fields | Description |
|-----------------------------------|---|
| Other Administrative Route | Enter Administrative Route that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Dose | Enter the Dose of the viral treatment given. Select the dosage units from the drop-down menu. Note: If the dose unit you are looking for is not available in the drop down list, manually enter the dose unit together with the amount in the text field. When you return to the page, your dose unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the dose unit information, you must delete the current dose unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new dose unit entry will be added to the old entry. |
| Treatment Regimen | Enter times and intervals in which the treatment was administered. |
| Age at Treatment | Enter age information in the text box and from the drop-down list. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Gender | Select Gender from the drop-down list. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.23 Viral fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Transient Interference

Transient Interference includes two categories of small oligonucleotides used to interfere with the translation of messenger RNA, thus knocking down gene function: *Morpholinos* and *siRNA*.

Morpholinos

This category is included in caMOD for working with zebrafish. The primary tools for such work are “morpholinos”. Morpholinos, or morpholino phosphorodiamidate oligonucleotides (MOs), are small antisense molecules (about 25 nucleotides) that are used to block regions of RNA and thus knock down a gene function. MOs are the main tool for reverse genetics in fish models.

To enter or edit the morpholino information for an animal model:

1. Click **Transient Interference** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Morpholino** red hypertext link. This opens the Morpholino form.
3. Enter or select the appropriate information about your morpholino in the text entry fields. Items with an asterisk are required fields.

| Morpholino Fields | Description |
|------------------------------------|---|
| Source | Select the source of the morpholino in the drop-down menu. Options are companies that make morpholinos: Gene Tool ; Biosystem If the appropriate source is not listed, select Other from the drop-down list and enter the Other Source in the corresponding text field. |
| Other Source | Enter the morpholino source that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Type | Select from the drop-down menu the morpholino type, Custom or Standard . |
| Sequence Direction | Select the sequence direction in the drop-down menu: 5' - 3' or 3' - 5' . |
| *Targeted Region | Enter the Targeted Region (gene or gene product to be knocked down) affected by the morpholino in the text box. Note: After the data have been submitted, the morpholino is identified under the Transient Interference > Morpholino category by the term used in this text box. |
| Concentration | Enter the Concentration of the sample in value and measurement units. |
| Delivery Method | Select from the drop-down menu the method used to deliver the MOs. If the appropriate method is not listed, select Other from the drop-down list and enter the Other Delivery Method in the corresponding text field. |
| Other Delivery Method | Enter Other Delivery Method that is not listed in the drop-down list. |
| Target Site | Select the region within the gene you target (start site or splice site). |
| Visualization Ligands | Since zebrafish embryos are clear, MOs are combined with fluorescent ligands for visualization purposes. For example, fluorescein isothiocyanate is a visualization ligand. |
| Other Visualization Ligands | Enter Other Visualization Ligand that is not listed in the drop-down list. |

Table 3.24 Morpholino fields and description for transient interference

| Morpholino Fields | Description |
|--------------------------|---|
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.24 Morpholino fields and description for transient interference

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

siRNA

The siRNA details page is included in caMOD for working with all animal models. siRNA stands for "short interfering RNA", or small strands of RNA that interfere with the translation of messenger RNA. An siRNA is an intermediate in the RNAi process in which the long double-stranded RNA has been cut up into short (~21 nucleotides) double-stranded RNA. The siRNA stimulates the cellular machinery to cut up other single-stranded RNA having the same sequence as the siRNA

siRNA's effect of inhibiting gene expression is commonly known as gene "silencing" (also called RNA silencing)--a method that allows one to "knock down" expression of genes in a sequence-specific fashion. Although RNA silencing occurs naturally to protect organisms from aberrant transcription, it is now being exploited to silence genes implicated in diseases and to determine the functions of various genes.

Double stranded siRNA works better than single stranded siRNA. siRNA are usually 21 to 23 nucleotides long. They bind to the complementary portion of the target messenger RNA and tag it for degradation.

To enter or edit the siRNA information for an animal model:

1. Click **Transient Interference** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter siRNA** red hypertext link. This opens the siRNA form.
3. Enter or select the appropriate information about your siRNA molecule in the text entry fields. Items with an asterisk are required fields.

4. Fill in correct fields and describe.

| siRNA Fields | Description |
|------------------------------------|---|
| Source | Select the source of the siRNA in the drop-down menu. Options are companies that make siRNAs: Gene Tool ; Biosystem If the appropriate source is not listed, select Other from the drop-down list and enter the Other Source in the corresponding text field. |
| Other Source | Enter the siRNA source that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Type | Select from the drop-down menu the siRNA type, Custom or Standard . |
| Sequence Direction | Select the sequence direction in the drop-down menu: 5' - 3' or 3' - 5' . |
| *Targeted Region | Enter the Targeted Region (site or locus) affected by the siRNA in the text box. Note: After the data have been submitted, the siRNA is identified under the Transient Interference > siRNA category by the term used in this text box. |
| Concentration | Enter the Concentration of the sample in value and measurement units. |
| Delivery Method | Select from the drop-down menu the method used to deliver the siRNAs. If the appropriate method is not listed, select Other from the drop-down list and enter the Other Delivery Method in the corresponding text field. |
| Other Delivery Method | Enter Other Delivery Method that is not listed in the drop-down list. |
| Visualization Ligands | siRNAs can be combined with fluorescent ligands for visualization purposes. For example, fluorescein isothiocyanate is a visualization ligand. Enter the visualization ligand used, if appropriate. |
| Other Visualization Ligands | Enter Other Visualization Ligand that is not listed in the drop-down list. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.25 siRNA fields and descriptions for transient interference

- Click the **Submit** button to execute the submission of the model information.
- Click **Reset** to return the form to default settings: If you are entering data for the first time, Reset clears the form (resets it to its defaults). If you are changing data for an existing model, Reset returns the form back to the unmodified state (the default).

Publications

To enter or edit the information about publications:

1. Click **Publications** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Publication** red hypertext link. This opens the Publications form.
3. Enter or select the appropriate information about publications related to your animal model in the text entry fields. Items with an asterisk are required fields.

| <i>Publications Fields</i> | <i>Description</i> |
|--|--|
| *First Author | Primary author for the publication |
| *Publication Status | Select Published or Unpublished. Unpublished can include work that is submitted or in preparation. |
| *Publication where reported first time? | Is this the publication where the animal model being entered was described for the first time? Select Yes or No. |
| **PubMed ID (PMID) | <p>Enter the PubMed ID (PMID) or click the link to look up the PubMed ID. Enter it in the appropriate field. Click the Fill In Fields button. caMOD automatically retrieves the publication information based on the PubMed ID and populates the Publications form fields identified in this table with bullets.</p> <p>Note: For books and journals not listed in PubMed, enter the appropriate information on this form.</p> |
| ZFIN Number | <p>This field displays only if the model you select is a zebrafish. Enter the ZFIN identifier of the publication. Note: You can copy and paste an entire ZFIN ID into this field, which must include the prefix "ZDB-GENO-". <i>Example:</i> ZDB-PUB-071009-8.</p> <p>Click Find ZFIN ID to open the ZFIN website where you can learn more about the zebrafish, including the ZFIN ID for your model.</p> |
| J Number | <p>This field displays if you enter any animal model <i>other than</i> a zebrafish or rat. J Number is an internal identifier for a publication used by the Jackson Laboratory. Enter this internal identifier in the appropriate text field. Click the Find J# button to open the MGI Reference Query form where you can enter the identifying information to find the J Number. The J Number must include the prefix "J:". <i>Example:</i> J:134077.</p> |
| RGD Identifier | <p>This field displays only if the model you select is a rat model. Enter the Rat Genome Database (RGD) identifier of the publication. Enter the number only. Note: You can copy and paste the RGD reference ID <i>number segment only</i> into this field. Do not copy and paste the prefix "RGD". <i>Example:</i> 70417.</p> <p>Click Find RGD ID to open the RGD website where you can learn more about the RGD, including the RGD ID for your model.</p> |

Table 3.26 Publications fields and their descriptions


| Publications Fields | Description |
|--|--|
| **Title of Publication <ul style="list-style-type: none"> • Year of Publication • Journal • Volume • Start Page • End Page | <p>These fields are populated automatically when a publication is identified with the PubMed ID and the Fill In Fields button is clicked. See previous row in this table.</p> <p>If you cannot or do not locate the publication on PubMed, enter this information manually.</p> |
| Abstract in PubMed | <p>Note: This field displays on the Publications form only after you have submitted Publications information for a model. Click the  icon to look up the abstract in PubMed.</p> |
| Comment | <p>Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field.</p> |

Table 3.26 Publications fields and their descriptions

4. Click the **Submit** button to send the publication to the database.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

**Either the PMID or Title of Publication (not both) is a required field.

Histopathology

To enter or edit the histopathology for an animal model:

1. Click **Histopathology** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options display only after you have clicked the (model) Submit button in other caMOD viewers.
2. Click the **Enter Histopathology** red hypertext link.

Note about previous submissions: Subheadings indicate organ metastasis; metastasis originated in the organ in the top-level heading.

- Blue text = an item that has already been entered into the caMOD database.
- Brown text = places where you can enter metastases or clinical markers.



Example: This model has a tumor in the mammary gland and a tumor in the liver, both of which are already entered in the database. The liver cancer has metastasized to the heart (sub-topic to liver), data which has also been entered into the database.

3. To add associated metastases, click on the brown hypertext link. To enter information about a Clinical Marker, click the associated brown hypertext link.

Note: These two options become available only after you have entered a primary tumor.

4. In the Histopathology form, enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| Histopathology Fields | Description |
|------------------------------|---|
| *Site of Lesion/Tumor | <p>The available options correspond to the donor species you specified for this model.</p> <ul style="list-style-type: none"> • If the Select button displays (Mouse, Rat or Zebrafish), click it to open a Lesion or Tumor Site data tree that corresponds to the donor species. Select from the vocabulary tree the site indicated for this histopathology specimen. • If no Select button displays, enter the Tumor or Lesion Site in the text field. |
| *Diagnosis | <p>The available options correspond to the donor species you specified for this model.</p> <ul style="list-style-type: none"> • If the Select button displays (Mouse or Rat), click it to open a diagnosis data tree that corresponds to the donor species. Select from the vocabulary tree the disease indicated for this histopathology specimen. • If a drop-down arrow displays (Zebrafish), select the appropriate diagnosis. If the appropriate diagnosis is not listed, select Other from the drop-down list and enter the Other Diagnosis in the corresponding text field. • If no Select button displays, enter the diagnosis in the text field. |
| Other Diagnosis | <p>Note: This field displays only for Zebrafish models. Enter Other Diagnosis that is not listed in the previous drop-down list.</p> |
| Age of Tumor Onset | <p>Average age of the animal when the lesion / tumor is first detectable. Enter age information in the text box or from the drop-down list.</p> <p>Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry.</p> |

Table 3.27 Histopathology fields and their descriptions

| Histopathology Fields | Description |
|---|---|
| Age of Tumor Detection | Age of the animal when the lesion/tumor was detected. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Average Weight of Tumor (mg) | Enter the average weight of the tumor. |
| Average Volume of Tumor (mm³) | Enter the average volume of the tumor. |
| Tumor Incidence over Lifetime (%) | Incidence is the number of new cases of a condition, symptom, death, or injury that arise during a specific period of time, such as a year. It is often expressed as percentage of a population (e.g. 25% of American residents were diagnosed with the flu in 2002.) Incidence conveys the likelihood that an individual in that population will be affected by the condition. Enter percentage of the population of animals that develops a specific type of lesion/ tumor. (Numbers only) |
| Survival Information | Indicate the age when the animals expire or must be sacrificed due to the tumor burden. |
| Gross Description/ Macroscopic Description | Describe structural and functional changes resulting from the disease processes; can be detected by the unaided eye. |
| Microscopic Description | Describe structural and functional changes resulting from the disease processes; could not be detected by the unaided eye. |
| Genetic Alterations found in Tumor | Describe genetic alterations found in the tumor other than the changes that were deliberately introduced to generate this model. |
| Method of Observation | Describe methods by which genetic alterations were discovered. |
| Comparative Data from Other Species | Describe occurrences found in humans or other species. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.27 Histopathology fields and their descriptions

- Click the **Submit** button to execute the submission of the model information.
- Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Note: The link for Clinical Markers displays only after you have entered a primary tumor or metastasis.

When you open the Histopathology page for a submitted model, the tumor and diagnosis identified for the model displays at the top of the page.

Clinical Marker

Clinical Marker information is added to a model associated with histopathology data.

To enter or edit the histopathology for an animal model:

1. Click **Histopathology** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Once you have submitted histopathology information for your model, the entry is listed (in blue, indicating submitted information) by its specified organ-type under the Histopathology category. At that point, the **Enter Associated Metastasis** and **Enter Clinical Markers** options (in brown, indicating active options) display under the organ-type listing.
3. Click the **Enter Clinical Marker** brown hypertext link.

Note: The link for Clinical Markers displays only after you have entered a primary tumor.

4. Enter or select the appropriate information about the clinical markers and their values for your animal model in the text entry fields. Items with an asterisk are required fields.

| <i>Clinical Marker Fields</i> | <i>Description</i> |
|--------------------------------------|---|
| *Clinical Marker | Select the Clinical Marker from the drop-down menu. |
| Other Clinical Marker | Enter clinical marker source that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Value | Enter the appropriate value for the marker in the text field. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Clinical Marker fields and their descriptions

5. Click the **Submit** button to execute the submission of the model information.
6. Click **Reset** to return the form to default settings: If you are entering data for the first time, Reset clears the form (resets it to its defaults). If you are changing data for an existing model, Reset returns the form back to the unmodified state (the default).

Metastasis

To enter or edit the Metastasis information, a subheading under the Histopathology category, for a animal model:

1. Click **Histopathology** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options display only after you have clicked the (model) Submit button in other caMOD viewers.

Note: Subheadings indicate organ metastasis; if listed as a subheading, the metastasis originated in the organ in the top-level heading.

- Blue text = an item that has already been entered into the caMOD database.
- Brown text = places where you can enter metastases or clinical markers.

HISTOPATHOLOGY

- Enter Histopathology
- Mammary Gland
 - Enter Assoc Metastasis
- Liver
 - Enter Assoc Metastasis
 - Heart (Metastasis)
- Enter Clinical Marker

Example: This model has a tumor in the mammary gland and a tumor in the liver, both of which are already entered in the database. The liver cancer has metastasized to the heart (sub-topic to liver), data which has also been entered into the database.

2. Click **Enter Associated Metastasis** (brown text) under the appropriate organ indicated in blue text.
3. In the Metastasis form, enter or select the appropriate information about your model in the text fields. Items with an asterisk are required fields.

| Metastasis Fields | Description |
|-----------------------|--|
| *Site of Lesion/Tumor | <p>The available options correspond to the donor species you specified for this model.</p> <ul style="list-style-type: none"> • If the Select button displays (Mouse, Rat or Zebrafish), click it to open a Lesion/Tumor data tree that corresponds to the donor species. Select from the vocabulary tree the lesion or tumor used as the source for this metastasis specimen. • If no Select button displays, enter the Lesion or Tumor in the text field. |
| *Diagnosis | <p>Click the Select button. The data tree that opens corresponds to the Donor Species you specified for this model. Select from the disease vocabulary tree the diagnosis assigned to this metastasis specimen.</p> |

Table 3.28 Metastasis fields and their descriptions

| Metastasis Fields | Description |
|--|--|
| Age of Metastasis Onset | Age of the animal when the metastasis is first detectable. Enter age information in the text box or from the drop-down list. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Age of Metastasis Detection | Age of the animal when the metastasis was detected. Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry. |
| Average Weight of Metastasis (mg) | Enter the average weight of the metastasis. |
| Average Volume of Metastasis (mm³) | Enter the average volume of the metastasis. |
| Metastasis Incidence Over Lifetime (%) | Enter the percentage of the population that develops metastases. (Numbers only) |
| Survival Information | Indicate the life expectancy for the animals with metastasized tumors. |
| Gross Description/ Macroscopic Description | Describe structural and functional changes resulting from the disease processes; can be detected by the unaided eye. |
| Microscopic Description | Describe structural and functional changes resulting from the disease processes; could not be detected by the unaided eye. |
| Genetic Alterations found in Tumor | Describe genetic alterations found in the metastasis other than genetically engineered changes |
| Method of Observation | List the method(s) by which the metastasis was discovered. Note: This field becomes writable only after you have entered information in the Genetic Alterations found in Tumor field. |
| Comparative Data from Other Species | Describe occurrences found in humans or other species. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.28 Metastasis fields and their descriptions

- Click the **Submit** button to execute the submission of the model information.

- Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Therapy

All treatments intended to prevent, slow down, or otherwise treat cancerous growth should be submitted as therapeutic experiments.

To enter or edit the therapeutic experiments for an animal model, follow these steps:

- Click **Therapeutic Approaches** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
- Click the **Enter Therapy** red hypertext link. This opens the Therapy form.
- Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| <i>Therapy Fields</i> | <i>Description</i> |
|----------------------------|---|
| *Drug/Compound Name | Enter the name of the drug / compound (chemical name preferred over brand name) that was administered to the animal. If a drug cocktail consisting of several compounds was given enter each compound separately and explain the experiment in more details in the Experiment or the Comment field. |
| NSC Number | <p>Enter the NSC number in the text box. The NSC number is a unique drug identifier issued by the Nomenclature Standards Committee (NSC) of the U.S Food and Drug Administration.</p> <ul style="list-style-type: none"> If you don't know the number, click the Find NSC# button. The button opens a page at the Developmental therapeutics Program (DTP) at NCI which allows you to find the NSC number for a specific drug. On the DTP page, select Chemical name starts or Chemical name number. (By default, the radio button is set to find the NSC number.) Enter text in the Search Parameters field, and click Submit. Once you have found the NSC number, copy the number from the field onto the field on the Therapy page. |
| CAS Number | <p>Enter the Chemical Abstracts Service (CAS) number for a chemical or drug. Click (Find CAS#) to find the CAS number. Copy the number and paste it into the field on the Therapy page.</p> <p>Note: You can also retrieve the CAS number from the DTP page described in the previous row of this table. It will display with the NSC number on the Chemical/Drug page.</p> |

Table 3.29 Therapy fields and their descriptions



| Therapy Fields | Description |
|-----------------------------------|---|
| Chemical Class | <p>Select the Chemical Class from the displayed list; make sure it is highlighted, and move it down to the lower box using the Down () arrow.</p> <p>To de-select a chemical class, highlight it in the right box. Move it up to the upper box by clicking the Up () arrow.</p> <p>Note: You can move multiple items at one time. Use the convention select methods: CTRL + click to select non-contiguous items; SHIFT + click to select all items within a range.</p> |
| Biological Process | Select the Biological Processes affected by the drug from the displayed list. Using the up and down arrows as described above, create a list of biological processes affected by the selected drug. |
| Target | Using the up and down arrows as described above, create a list of targets used in the therapy. |
| Experiment | Enter the hypothesis for the experiment conducted with this model and this drug. |
| Dose (number only) | <p>Enter the dose of the therapeutic agent. Select the dosage units from the drop-down menu.</p> <p>Note: If the dose unit you are looking for is not available in the drop down list, manually enter the dose unit together with the amount in the text field. When you return to the page, your dose unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the dose unit information, you must delete the current dose unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new dose unit entry will be added to the old entry.</p> |
| Administrative Route | Select the course in which a drug was administered in order to reach the site of action in the body. If the appropriate route is not listed, select Other from the drop-down list and enter the Other Administrative Route in the corresponding text field. |
| Other Administrative Route | Enter Administrative Route that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Gender | Select the Gender from the drop-down list. |
| Age at Treatment | <p>Enter animal age information in the text box and from the drop-down list.</p> <p>Note: If the time unit you are looking for is not available in the drop down list, manually enter the time unit together with the number in the text field. When you return to the page, your time unit entry that you selected or entered manually will be displayed in the text input field. Should you decide to update the unit information, you must delete the current time unit entry from the text field before selecting or entering the new information. Should you fail to delete first, the new time unit entry will be added to the old entry.</p> |

Table 3.29 Therapy fields and their descriptions

| Therapy Fields | Description |
|----------------------------|--|
| Developmental Stage | <p>Note: This field displays only for the Zebrafish model type.</p> <p>Click the Select button to open the developmental stage data tree that corresponds to zebrafish. Select from the vocabulary tree the appropriate developmental stage.</p> |
| Results | Describe Results of the experiment that was conducted with this model and this drug. |
| Toxicity Grade | Indicate the Toxicity Grade , as observed in this experiment, from the drop-down list: Mild , Moderate or Severe |
| Biomarker | <p>Biological markers (Biomarkers) are objectively measurable phenotypic parameters (for example, specific enzyme concentration, specific hormone concentration, specific gene phenotype, presence of biological substances) that characterize an organism's state of health or disease, likelihood of developing a disease, or response to a particular therapeutic intervention. Indicate the biomarkers (if any) that were used in this experiment.</p> |
| Tumor Response | Describe the response of the tumor to the therapy. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.29 Therapy fields and their descriptions

- Click the **Submit** button to execute the submission of the model information.
- Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, Reset returns the form back to the unmodified state (the default).

Note: After the data have been submitted, you are offered a link to the Publications page to enter associated publications in which your specific therapy was described. By entering the publication in this way, an association between the publication and the therapy is established, and this particular publication will be displayed on the therapy search page. In addition, the publication will display on the publication search page.

Cell Lines

To enter or edit the cell line information for an animal model:

- Click **Cell Lines** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options display only after you have clicked the (model) Submit button in other caMOD viewers.
- Click the **Enter Cell Lines** red hypertext link.

3. Enter or select the appropriate information about cell lines generated from the model in the text entry fields. Items with an asterisk are required fields.

| Cell Lines Fields | Description |
|---------------------------|--|
| *Name of Cell Line | Enter the name of the Cell Line that was generated from the animal model. |
| *Organ/Tissue | <p>The available options correspond to the donor species you specified for this model.</p> <ul style="list-style-type: none"> • If the Select button displays (Mouse, Rat or Zebrafish), click it to open a Organ/Tissue data tree that corresponds to the donor species. Select from the vocabulary tree the organ or tissue used as the source for this cell line. • If no Select button displays, enter the Organ or Tissue used as the cell line source in the text field. |
| Experiment | Enter the Experiment that was conducted with the cell line. If you conducted multiple experiments with the cell line, enter each experiment in a separate page by returning to the Submission Process page, reopening your model and retrieving an empty form by clicking on Enter Cell Line. You can make multiple entries for the same cell line and use the same cell line name. |
| Results | Describe the results of the experiment that was conducted with this cell line. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.30 Cell Lines fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Note: After the data have been submitted, you are offered a link to the Publications page to enter associated publications in which your specific cell line was described. By entering the publication in this way, an association between the publication and the cell line is established, and this particular publication will be displayed on the cell line search page. In addition, the publication will display on the publication search page.

Images

In caMOD, you can upload any kind of image: slides, graphs, slide analysis, anything that might be relevant to caMOD data.

To prepare an image for uploading to the database, we recommend that you include a scale bar for histology images. It is also advisable to convert the image to jpg format, because this file format has the capability to display up to 16.7 million colors, and has a reasonable file size because of the build-in compression. Acceptable image file formats are: .jpg, .jpeg, .gif, .sid or .png.

To enter or edit images relevant to an animal model:

1. Click **Images** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have click the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Images** red hypertext link. This opens the Images dialog box.
3. Enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| <i>Image Fields</i> | <i>Description</i> |
|-----------------------------|---|
| *Upload Image | Browse to locate the image on your computer to be uploaded to the caMOD database. If you do not have the image to submit, then enter an alternate URL below to point to another data source. |
| *Title of Image | Enter the name of the image to be uploaded in the text box. |
| Description of Image | Provide information similar to that which would be provided as an image caption in scientific publication. This is especially important when submitting composites. |
| Staining Method | Click the Select button. The data tree that opens displays a list of staining methods from which you can select. Select from the staining method data tree that opens the method used for staining the sample. |
| Alternate URL | Enter the URL for an alternate data source for the image if you are not submitting your own image. |
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.31 Image fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Depending on the file size, the upload process might take a minute or longer. Be patient. (No, your computer is not frozen and the application did not crash. It just takes a while to transfer image data.)

Viewing MrSID Images

MrSid images are high-quality images that have been compressed. The images are shown in the MrSid image viewer. The software allows the user to zoom in and out, move the pan to the left, right, up and down, or show the complete image (full size view).

Depending on the selection made by the user the specific part of the image will be downloaded from the server. This might take a moment so be patient.

Microarray Data

This page is used for the submission of experiment information and a URL when array data is stored in a database other than caArray. The page also contains information on how to submit data to caArray and link it to animal model record(s) in caMOD.

Data NOT in caArray

1. Click **Microarrays** from the list of Submit and Edit Models menu options on the left sidebar of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Microarray Data** red hypertext link.
3. In the dialog box that opens, enter the **Experiment Name** and the **URL** for the location where the data is stored. Both fields are required.

Data in caArray

1. Click **Microarrays** from the list of Submit and Edit Models menu options on the left sidebar of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click the **Enter Microarray Data** red hypertext link.

The page describes the required steps for uploading array data into caArray. You must log into caArray and work with the data there. You must have a user account in caArray that is separate from your caMOD user account. Refer to: <http://caarray.nci.nih.gov/>

Note: You can submit array data to caArray only in the Affymetrix format, in GenePix formats or in the Gene Array List.

For more information, refer to the caArray x.x online help or the caArray x.x User's Guide, downloadable from: <http://ncicb.nci.nih.gov/download/downloadcaarray.jsp>.

Model Availability

Model Availability lists sources where one can obtain or purchase animal models. Model Availability displays in caMOD under two conditions, model search and model submission:

- **Search:** After you have launched a search, in the Search Results list, click on the model link. This opens the corresponding Model Characteristics page, the bottom of which displays Model Availability details.
 - The **Strain** of the model displays, as well as the name of the **Distributor** (Investigator). If an email address for the Investigator exists in the caMOD database, click the name which is a hypertext link to the email information.
- **Submission:** When submitting a new model or editing an existing model, you can open the Model Availability page where you can provide or edit information about the availability of your model.

To enter model availability information for an animal model:

1. Click **Model Availability** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) **Submit** button in other caMOD viewers.
2. Click any of the **Model Availability** options applicable to your animal model. They are listed as red hypertext links. When you click the links, the corresponding pages open in new browser windows.
3. In the relevant page, enter the **Strain Name** and **Stock #** for your animal model. Click the **Find Info** button to link you to the appropriate resource for that page (such as the Jackson Laboratory website) where you can look up the appropriate stock number for the model. Items with an asterisk are required fields.

Model Availability sources are summarized as follows:

| Sources for animal models | Description |
|----------------------------------|--|
| Jackson Lab | Jackson Lab is a large international animal models distributor. If the model is available from the Jackson Laboratory, enter the *Strain Name and Stock Number of the model in the appropriate text field. Click the Find Info button to open the Jackson Lab website (http://jaxmice.jax.org) where you can find the appropriate information for your model. |
| MMHCC Repository | The Mouse Models of Human Cancers Consortium (MMHCC) Repository is an NCI-funded resource for mouse cancer models and associated strains. The repository makes strains available to all members of the scientific community. Enter the Strain Name and Strain Number to inquire about the availability of the model at this site. Click the Find Info button to open the MMHCC Repository website (http://mopuse.ncifcrf.gov) to find further information. |
| Investigator | If the Investigator is willing to send the mice to other laboratories, enter the Strain Name . Additionally, select the name of the [Principal Investigator] from the drop-down list. Scientists who would like to request the mice from the lab can directly contact the PI. |
| ZFIN | Enter the Strain Name (required) and ZFIN Identifier. Click the Find Info button to open the ZFIN website (http://zebrafish.org) where you can find the appropriate information for your model. Models can be purchased from Zirc, which is the commercial arm of ZFIN (http://zebrafish.org/zirc/home/guide/php). Note: You must enter the stock number as shown here: ZDB-GENO-070209-223 . |

Table 3.32 Animal model source fields and their descriptions

4. Click the **Submit** button to execute the submission of the model information.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Note: If a model is a product of a crossing of multiple models, and these models are available from one or more of these sources, enter the appropriate information about these models.

For example: A model that is entered in the database is a conditional Brca1 knockout. To generate this knockout, two different strains were crossed: the mouse strain that carried the floxed Brca1 gene and the cre-expressing mouse strain. If the mouse strain with the floxed Brca1 gene and/or the cre-expression mouse strain are available from one or more sources, this information would be entered.

Transplantation

To enter transplant information to a submitted model,

1. Click **Transplant** from the list of Submit and Edit Models menu options on the left side of the caMOD viewing window. These menu options only display after you have clicked the (model) Submit button in other caMOD viewers.
2. Click the **Enter Transplant** heading.
3. In the Transplant dialog box, enter or select the appropriate information about your animal model in the text entry fields. Items with an asterisk are required fields.

| <i>Transplant Fields</i> | <i>Description</i> |
|----------------------------|--|
| *Name of Transplant | Enter the name of the Transplant or Cell Line. In some cases, this is the name of the cell line that is being inserted. |
| *Donor Species | Select the Donor Species from the drop-down list. The text entry fields on this page correspond to your selection in this field. |
| If Other Species | Enter Donor Species that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Donor Strain | A specific breeding population of mice, including inbred strains, progeny of specific genetic crosses, or a mixed population of mice with partially known or unknown genetic background. (Source: Jackson Laboratory MGI Glossary) If applicable, select the Donor Species from the drop-down list. If the appropriate species is not listed, select Other and enter the Other Donor Species in the text field under the list. |
| Other Strain | Enter Donor Strain that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |

Table 3.33 Transplant fields and their descriptions

| Transplant Fields | Description |
|-------------------------------------|---|
| Organ/Tissue | <p>The available options correspond to the donor species you specified on this Transplant page.</p> <ul style="list-style-type: none"> • If the Select button displays (Mouse, Rat, Zebrafish or Human), click it to open an Organ/Tissue data tree that corresponds to the donor species. Select from the vocabulary tree the organ or tissue type indicated for this Transplant specimen. • If no Select button displays, enter the Organ or Tissue type in the text field. |
| *Source Type | Select appropriate Source Type from the drop-down list. If the appropriate Source Type is not listed, select Other from the drop-down list and enter the Other Source Type in the following text box. |
| If Other Source Type | Enter Source Type that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Parental Cell Line | Enter the name or designator of the Parental Cell Line to be used in the experiment. |
| ATCC Number (if available) | Enter the unique identifier of the cell line in the American Type Culture Collection (ATCC). If you don't know the number, click the Find ATCC # button. Once you have found the number, copy the number and paste it onto the field on the Transplant page. |
| Conditioning Regimen | Conditioning regimen refers to treatments that models can receive before the transplantation. Select the appropriate Conditioning Regimen from the drop-down list. If the appropriate Conditioning Regimen is not listed, select Other from the drop-down list and enter the Other Conditioning Regimen in the following text box. |
| Other Conditioning Regimen | Enter Conditioning Regimen that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Genetic Alteration | Describe the genetic manipulations used in the Transplant. |
| Method of Modification | Describe the modification method(s) used for the cell line or transplant. Note: This field becomes writable only after you have entered information in the Genetic Alteration field. |
| Amount of Cells | Enter the number or amount of cells transplanted into the animal. |
| Growth Period | Enter the period of time the Transplant was allowed to grow. |
| Site of Administration | Select from the drop-down list the body part in which the Transplant was placed (intraperitoneal, subcutaneous). If the appropriate site is not listed, select Other , and enter the Other Site of Administration in the text field under the list. |
| Other Site of Administration | Enter Site of Administration that is not listed in the drop-down list. Note: This field is only writable after you select Other in the previous field. |
| Host Species/Strain | The non-editable text in this field are copies of the species and strain information you entered on the Model Characteristics page. |

Table 3.33 Transplant fields and their descriptions

| <i>Transplant Fields</i> | <i>Description</i> |
|--------------------------|---|
| Comment | Comment on the contents of this page or use this field to add data for this model. You can also enter information that you would like to share but that did not fit in any other field. |

Table 3.33 Transplant fields and their descriptions

4. Click the **Submit** button to add the information to your model.
5. Click **Reset** to return the form to default settings: If you are entering data for the first time, **Reset** clears the form (resets it to its defaults). If you are changing data for an existing model, **Reset** returns the form back to the unmodified state (the default).

Grid Availability

Programmatic access to caMOD is available through a caGRID data service (API). A data service allows data owners to share the data from a source (e.g. Oracle or MySQL relational databases) with their collaborators. caGRID is an infrastructure that connects data, research tools, scientists, and organizations to leverage their combined strengths and expertise in an open federated environment with widely accepted standards and shared tools.

For more information about caGrid, see

<https://cabig.nci.nih.gov/workspaces/Architecture/caGrid>.

CHAPTER 4

CAMOD ADMINISTRATION

This chapter introduces you to the procedures for searching the caMOD database.

Topics in this chapter include:

- [Administration Functions Overview](#) on this page
- [Administration Roles](#) on page 94
- [User Management](#) on page 96
- [Roles Management](#) on page 99

Administration Functions Overview

To enter the administration mode of caMOD, click the **Admin** title in the gray bar at the top of the browser window.

Note: This option is visible only to users who have been assigned administration roles.

This opens the Administration Roles page which initially displays News and Notes and where you are assigned a role, a "To Do" list. Additionally, administration options display at the upper-left of the browser window..

- | | |
|----------------------------------|--------------------------|
| • Admin Roles | • Role Management |
| • View Comment Assignment | • User Management |
| • View Models Assignment | • Help |

caMOD Admin functions include responsibilities for three assignees: [Coordinator](#), [Screener](#), and [Editor](#)

Coordinator

The coordinator can perform the following tasks:

- Add new users
- Appoint screeners
- Appoint editors
- Assign models to a screener
- Assign models to an editor
- Assign comments to a screener

Screener

The screener can perform the following tasks:

- Scan submitted, completed records for appropriateness.
- Approve or reject a record.
- Scan comments for appropriateness.
- Approve or reject a comment.

Editor

The editor can perform the following tasks:

- Check the record for completeness and correctness.
- Approve the record for display or asks the submitter for more information.

Administration Roles

Note: The Administration Roles page is accessible only if you have Coordinator/Editor/Screener privileges.

The Administration Roles viewer opens when you click on the **Admin** tab in the caMOD viewer (*Figure 4.1*).

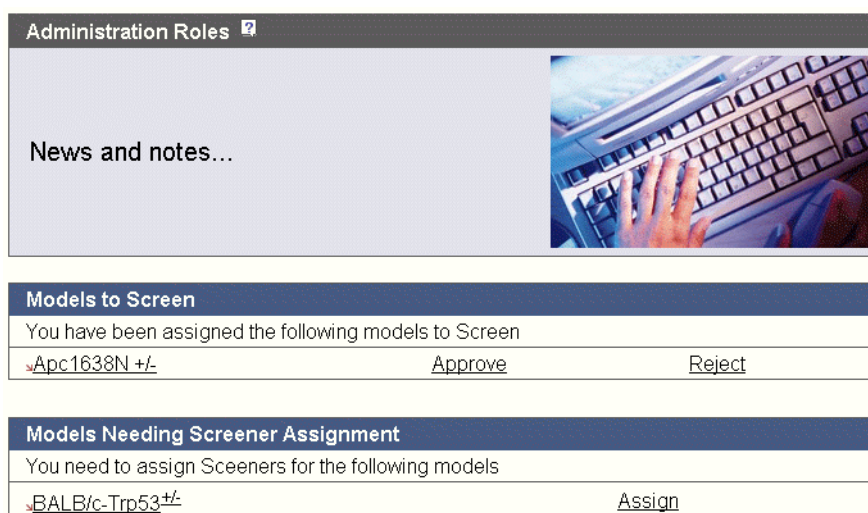


Figure 4.1 The Administration Roles page displays a task list, based on permissions assigned to the user

The Admin viewer lists tasks that need to be performed by you when you are assigned an Admin Role. The task list changes, depending on the roles the user must perform and the tasks the user must complete. All available links for the Admin section display in the upper left sidebar of the viewer.

Features that display on this page differ for each role the user may be assigned.

Coordinator

A Coordinator will see:

- **Models Needing Screener Assignment**
- **Comments Needing Screener Assignment**
- **Models Needing Editor Assignment**

If you are the Coordinator, click on the associated **Assign** button(s) to open the dialog box where you can make the assignments.

Screener

A Screener will see

- **Models to Screen**--the list displays model assignments.
- **Comments to Screen**--the list displays comment assignments.

If you are the Screener, click on any model or comment link to review the corresponding pages and/or fields. For a model, review all of the pages containing information submitted for the model. Click on any underlined category links in the Model Details section in the upper left sidebar of the viewer. (Any underlined segment indicates a category that contains data about the model.)

Editor

An Editor will see:

- **Models to Edit**--the list displays model assignments

If you are the Editor, click on any model or comment link to review the corresponding pages and/or fields.

After the Editor and Screener have reviewed all pages belonging to a model, they must click the **Admin** button in the dark gray toolbar again to return to the Admin Roles screen or they can use the browser's **Back** button to return to this page.

Back on the Admin Roles page, they indicate their decisions by selecting the appropriate term next to the model name.

- An Editor can reject or approve a model. The Editor has the opportunity to comment on his/her decision, but commenting is optional.
- An Editor can approve or request more information. The Editor can also comment on his/her decision, but commenting is optional.

User Management

Note: The User Management page is used by the Coordinator to edit information. The page is accessible only if you have Coordinator privileges.

From the Administration Roles page, you can edit information for current caMOD registered users. The Coordinator can also add new users to caMOD from this page. As an alternative, new users can register themselves from the caMOD login page.

To edit current users:

1. Click the **User Management** option at the upper left of the browser window. The drop-down list on the User Management page contains names of all current caMOD users.
2. To edit user information, with a current user selected in the drop-down list, click the **Edit** button.
3. In the Edit User dialog box, modify the user information. Click **Submit**.

Adding a New User

When, as the Coordinator, you want to add a new user to caMOD, follow these steps:

1. Click the **Admin** tab in the caMOD viewer.
2. Select the **User Management** option in the menu on the upper left sidebar of the viewer.

The drop-down list contains names of current caMOD users.

3. To add a new user, click the **Add** button.

4. In the Add User form, enter the appropriate information. Fields are described [Table 4.1](#). Items with an asterisk are required fields.

| User Fields | Description |
|---------------------------|---|
| *Institute / Organization | Self-explanatory |
| *First Name | Self-explanatory |
| *Last Name | Self-explanatory |
| Username | Enter the username of the new user. |
| Principal Investigator | Check the box if the new user is the project PI. After doing this, the PI's name will appear in any PI drop-down list in the application. |

Table 4.1 User fields and descriptions

5. Click the **Submit** button to execute the submission of the new user information. Click the **Cancel** button to abort the action.

Roles Assignment

Besides being simply a Registered User in caMOD, a user can be assigned other roles by a caMOD Coordinator. For more information, see [Administration Roles](#) on page 94, and [Roles Management](#) on page 99.

Assigning a Screener

The task of assigning a Screener to screen submitted models is performed on the Administration Roles page in caMOD.

Only a Coordinator can assign a screener. If you are a Coordinator, to assign a Screener:

1. When you enter the **Admin** mode of caMOD, the Administration Roles page displays your "To Do" list: **Models Needing Screener Assignment**, **Models needing Editor Assignment** and **Comments Needing Assignment**.
2. For the Models Needing Screener Assignment or Comments Needing Assignment, click the **Assign** button corresponding to the listed model. This opens the Assigning a Screener dialog box ([Figure 4.2](#)).

* indicates a required field

| Assigning Screener to AnimalModel Apc1638N +/- | |
|---|---------------------------|
| * Assigned To | Hadfield, Jill |
| Note | Please screen by 6/4/2006 |
| <input type="button" value="Submit"/> <input type="button" value="Cancel"/> | |

Figure 4.2 Assign Screener dialog box

3. In the Assigning Screener page, select a Screener by name from the **Assigned to** drop-down list.
4. Enter appropriate notes in the **Note** text box.

5. Click the **Submit** button to execute the assignment. Click the **Cancel** button to abort the action.

When you click the **Submit** button, the application returns you to the Administration Roles page. When the Screener to whom you have assigned the model logs in and goes to the Admin section, the model you have assigned will display on his/her "To Do" list.

Screener Responsibilities

A Screener is assigned the role by the Coordinator.

Responsibilities of a Screener:

- The assigned Screener performs the initial review of submitted models. This review is a quick check that the model is appropriately entered and that it does not contain junk or grossly inappropriate material.
- The Screener makes a preliminary assessment for clarity, typographic errors and other issues that would make the model less than fully comprehensible. The screening process should be complete within 24 hours.
- The Screener does not contact the Submitter about the submission. Any deficiencies found are described in an email to the Coordinator.
- Each email deals with only one submission, so that the emails can be independently routed for vetting.

Assigning an Editor

The task of assigning an Editor to edit a screened model is performed on the Administration Roles page in caMOD.

Only a Coordinator can assign a screener. If you are a Coordinator, to assign an Editor:

1. Click **Admin** from among the caMOD titles on the gray bar at the top of the viewer window.

When you enter the Admin mode of caMOD, the Administration Roles page displays your "To Do" list: Models Needing Screener Assignment, Models needing Editor Assignment and Comments Needing Assignment.

2. For the Models Needing Editor Assignment, click the **Assign** button corresponding to the listed model to be assigned.
3. In the Assigning Editor page, select an Editor by name from the Assigned to drop-down list.
4. Enter appropriate notes in the **Note** text box.
5. Click the **Submit** button to execute the assignment. Click the **Cancel** button to abort the action.

When you click the **Submit** button, the application returns you to the Administration Roles page. When the Editor to whom you have assigned the model logs in and goes to the Admin section, the model you have assigned will display on his/her "To Do" list.

Editor Responsibilities

An Editor is assigned the role by the Coordinator.

Responsibilities of an Editor:

- When notified that a model is ready for editing/reviewing, the assigned Editor examines the model to see if it satisfies criteria to be made available to the public.
- The Editor considers any comments made by the Screener, which are passed along in the email from the Coordinator.
- The Editor may determine that the model cannot be made acceptable for publication in the database. For example, the model may be a prank.
- If the model has correctable defects, it may be necessary to communicate by email with the submitter to make the model acceptable. Correspondence and telephone contact with the submitters are conducted through the Coordinator.
- Editors are responsible for maintaining a paper trail or log of email exchanges regarding the models they review.
- The Editor may elect to review a model without assistance, or he or she can request assistance from other subject matter experts.
- Only the Editor has the authority to release the model to the intended audience.

caMOD Permissions

The following categories and their associated authorizations are found in caMOD:

- **User**--Includes every user without an account. These users can query the database without restrictions, but they cannot submit models or comment on models.
- **Registered User**--Can submit models to the database and can comment on models submitted by other researchers.
- **Super User**--Has access to all model entries to update them. This is to facilitate minor text corrections in an entry without having to bother the submitter.
- **Screener**--Registered user who performs the functions of a Screener.
- **Editor**--Registered user who performs the functions of an Editor.
- **Coordinator**--Registered user who performs the functions of a Coordinator.

Roles Management

Note: The Roles Management page is accessible only if you have Coordinator privileges.

For more information about using the Roles Management page, see Administration Roles and Coordinating the Review Process.

The Roles Management page allows you, the Coordinator, to review and modify Admin assignments.

To modify current user assignments:

1. Click on the **Role Management** option at the upper left sidebar of the browser window. The drop-down list on the Role Management page contains names of all users currently assigned Admin roles in caMOD.
2. In the Roles Management drop-down menu, select any of the listed roles and click the **Submit** button.
3. The list that displays shows the assignee, their member assignment status and their email contact information. Click on the members name to open the Edit User Roles dialog box (*Figure 4.3*).

| Edit User Roles for Hadfield, Jill | |
|------------------------------------|-------------------------------------|
| Coordinator | <input checked="" type="checkbox"/> |
| Editor | <input type="checkbox"/> |
| Screener | <input checked="" type="checkbox"/> |

Figure 4.3 Edit User Roles dialog box

4. In the Edit User Roles dialog box, check or clear boxes to modify the user information.
5. Click **Submit** to execute the action. Click **Cancel** to abort the action.

Coordinating the Review Process

In caMOD, the Coordinator manages the model review process. The responsibilities in this process include:

Assigning Functions/Grant Privileges for Screeners and Editors

Appointing Screeners and Editors

1. Click the **Role Management** option on the left sidebar toolbar.
2. In the drop-down menu of the page, make sure All is selected. Click the **Submit** button.
3. On the list of all users, current member assignment display in the Member Status column. Click the name of the user you select to become a Screener, Editor or another Coordinator.
4. On the Edit User Roles page that opens, check the role this user is to perform.

Editing or Removing Roles

1. Click the **Role Management** option on the left sidebar toolbar.
2. In the drop-down menu of the page, click the name of the user you want to remove from a role.
3. In the Edit User Roles page, clear the checkbox for the role this user should no longer perform.

Reviewing Models

Assigning Models to Screeners

Only completed models can be screened.

1. To see models that need to be assigned for screening, the Coordinator clicks the **View Model Assignment** option in the left sidebar.
2. In the Models Assignment dialog box, select **Completed - Not Screened** models from the drop-down list.
3. The Coordinator marks the models by clicking the check box in front of the model name.
4. The Coordinator selects a Screener from the drop-down list for the selected models.

Assigning Models to Editors

Only models that were approved by the Screener can be send to the Editor.

1. To see models that need to be reviewed, the Coordinator clicks the **View Model Assignment** option in the left sidebar.
2. In the Models Assignment dialog box, the Coordinator selects **Screened - Approved** models from the drop-down list.
3. The Coordinator marks the models by clicking the check box in front of the model name.
4. The Coordinator selects an Editor from the drop down list for the selected models.

Review Follow-Up

Note: After a Screener or an Editor has finished reviewing an assigned model, there may be a need to communicate with the model submitter to obtain more information about the model, for example. All communications of this nature are carried out by the Coordinator. For more information, see [Screening a Model](#) on page 102 and [Editing a Model](#) on page 104.

Requesting More Information

At any point in the screening process for a model, the Screener or Editor can request more information from the submitter about the model. To request more information, click the **Need More Info** button corresponding to the model. In the dialog box that opens, enter your notes describing the information you need. Click **Submit**.

Models Assignment

Note: The Models Assignment page is accessible only if you have Coordinator privileges. This page is for informational purposes only. To initiate model or comment reviews, you must do so from the Administration Roles page. See [Administration Roles](#) on page 94 for more information.

From the Models Assignment page, you can select from the drop-down menu list of current model assignments:

- **Incomplete**
- **Complete - not screened**
- **Screened - assigned**
- **Screened - approved**
- **Screened - rejected**
- **Editor - assigned**
- **Edited - approved**
- **Edited - request more info**

Select any of these options and click the **Submit** button. The corresponding list displays in table format in the browser. The table shows the **Model Descriptor**, the **Model Submitter**, and the **Date of Submission**. Click on the **Model Descriptor** for any model. This opens the model information for your perusal.

Screening a Model

A Screener checks to see if a model entry is appropriate for caMOD. (For example, a Screener might reject a model when inappropriate images are associated with the model entry.) A Screener is appointed by the Coordinator. See [Coordinating the Review Process](#) on page 100, for more information.

Screening Work flow

1. You, as the Screener, receive an email with the information that a model has been assigned to you for screening.
2. Log into caMOD. As an assigned Screener, when you log in, you have access to the Admin mode of caMOD, where you can review assignments and launch model reviews.
3. Select **Admin** from the top of the viewer.
4. The Administration Roles page that opens displays Models to Screen. Click a Model Descriptor.
5. The Model Characteristics page opens for the selected model. Review that page.
6. Open the model detail pages and review all detail pages. The categories at the left with either underlined or in red text have information submitted with the model that needs reviewing.
 - * **Model Characteristics**
 - * **Genetic Description**
 - * **Carcinogenic Interventions**
 - * **Publications**
 - * **Histopathology**
 - * **Therapeutic Approaches**
 - * **Cell Lines**
 - * **Images**

- * **Microarray**
 - * **Model Availability**
 - * **Transplant**
7. Click on the appropriate categories to open the corresponding page(s).
 8. Once you have finished the review, use the browser **Back** button to return to the Administration Roles page.
 9. Indicate your decision about the model by clicking the appropriate button to the right of the model on the Models to Screen list (*Figure 4.4*).

| Models to Screen | | |
|---|-------------------------|------------------------|
| You have been assigned the following models to Screen | | |
| BALB/c-Trp53^{+/+} | Approve | Reject |

Figure 4.4 In the Models to Screen section, indicate your decision about the model.

You as the Screener, can do the following:

- a. *Approve a model*--If you click **Approve**, in the Approving Animal Model dialog box, enter any comments in the **Note** text box. Click **Submit**. Accepting a model results in an email informing the Coordinator that the screening process was completed. The Coordinator then assigns an Editor for finalizing the review process.
- b. *Reject a model*--If you click **Reject**, in the Rejecting Animal Model dialog box, enter any comments in the **Note** text box. Click **Submit**. This model will stay in the database but will not be visible.

Note: The Screener does not contact the submitter about the submission. Any deficiencies found are described in an automatically-generated email to the Coordinator. Each email deals with only one submission, so that the emails can be independently routed for vetting.

Comments Assignment

Note: The Comments Assignment page, associated with the caMOD Admin page, is accessible only if you have Coordinator/Editor/Screener privileges. This page is for information purposes only. To initiate model or comments reviews, you must do so from the Administration Roles page.

All Comments entered into any model information must be screened and accepted. The Coordinator assigns a Screener to screen comments.

From this page, you can select from the drop-down menu list of current comment assignments:

- **Screened - rejected**
- **Screened - approved**
- **Screener - assigned**
- **Complete - not screened**

Select any of these options and click the **Submit** button. The corresponding list displays in table format in the browser. The table shows the Model Descriptor, the Model Submitter, and the Date of Submission. Click on the Model Descriptor for any model. This opens the model information, including comments, for your perusal.

Editing a Model

An Editor is a registered user, usually scientifically trained, who evaluates the model entry for scientific correctness. An Editor is appointed by the Coordinator. See [Coordinating the Review Process](#) on page 100 for more information.

Editing Work flow

1. You, as the Editor, receive an email with the information that a model has been assigned to you for editing. This occurs after the Screener has approved the model.
2. Log into caMOD. As an assigned Editor, when you log in, you have access to the Admin mode of caMOD, where you can review assignments and launch model reviews.
3. Select **Admin** from the top of the viewer.
4. On the Admin page, the models assigned to you for editing display. Click on a Model Descriptor. A new page opens, displaying links to the assigned models.
5. The Model Characteristics page opens for the selected model. Review that page.
6. Open the model detail pages and review all detail pages. An underlined format or red text indicates the categories that have information submitted with the model.

- * **Model Characteristics**
- * **Genetic Description**
- * **Carcinogenic Interventions**
- * **Transient Interference**
- * **Publications**
- * **Histopathology**
- * **Therapeutic Approaches**
- * **Cell Lines**
- * **Images**
- * **Microarrays**
- * **Model Availability**
- * **Transplant**

7. Once you have finished the review, use the browser **Back** button to return to the Administration Roles page.
8. Indicate your decision about the model by clicking the appropriate button to the right of the model on the **Models to Edit** list ([Figure 4.5](#))

| Models to Edit | | |
|---|-------------------------|--------------------------------|
| You have been assigned the following models to Edit | | |
| Apc1638N +/- | Approve | Need More Info |

Figure 4.5 In the Models to Edit section, you can indicate your decision about the model.

You, as the Editor, can:

- *Approve a model*--If you click Approve, in the Approving Animal Model dialog box, enter any comments in the Note text box. Click **Submit**. Accepting a model results in an email informing the Coordinator that the editing process was completed. By approving the model, you release the model to the intended audience.
- *Request more information about the model*--You may determine that the model cannot be made acceptable for publication in the database. Once you submit your evaluation, comments and questions, the Coordinator is notified and communicates by email with the submitter to make the model acceptable.

Note: The Editor does not contact the submitter about the submission. Any deficiencies found are described in an automatically-generated email to the Coordinator. Each email deals with only one submission, so that the emails can be independently routed for vetting.

GLOSSARY

This glossary defines acronyms, abbreviations, and terminology used in this guide.

| Term | Definition |
|----------------------------|---|
| caBIG | cancer Biomedical Informatics Grid |
| caBIO | Cancer Bioinformatics Infrastructure Objects |
| caCORE | cancer Common Ontologic Representation Environment |
| caDSR | Cancer Data Standards Repository |
| caMOD | Cancer Models Database |
| CGH | Comparative Genomic Hybridization |
| EBI | European Bioinformatics Institute |
| EVS | Enterprise Vocabulary Services |
| genomic segment designator | also called clone designator |
| MAGE 1.1 | MAGE 1.1 is a widely-used microarray data standard or guideline |
| MAGE-ML software format | XML-based standard for representation of microarray data |
| MIAME 1.1 | MIAME1.1. is a standard or guideline for the minimum amount of information required to make a microarray record useful to others. |
| MGED Ontology | MGED Ontology is a controlled vocabulary standard that concisely defines terms as they relate to Microarrays and caArray as a whole |
| MGED | Microarray Gene Expression Data Society |
| MMHCC | Mouse Models of Human Cancers Consortium |
| NCI | National Cancer Institute |
| NCICB | National Cancer Institute Center for Bioinformatics |
| targeted modification | Gene was knocked out |
| transgene | gene was used as the transgene |
| URI | Uniform Resource Identifier |
| URL | Uniform Resource Locators |

| Term | Definition |
|-------------|---|
| XML | Extensible Markup Language (http://www.w3.org/TR/REC-xml/) - XML is a subset of Standard Generalized Markup Language (SGML). Its goal is to enable generic SGML to be served, received, and processed on the Web in the way that is now possible with HTML. XML has been designed for ease of implementation and for interoperability with both SGML and HTML |

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