

Brief Tutorial

1. User Group

There are three kinds of users in current version, which is **Admin User**, **Experimenter** and **Anonymous**.

(a) Admin User:

- i. Create Set-up Template → <http://sabio.h-its.org/exemplify>
- ii. Manage User Accounts (create, edit, delete) → <http://sabio.h-its.org/exemplify/user>

(b) Experimenter

- i. Manage Experiments (create, update, delete, download and shareToPublic) → <http://sabio.h-its.org/exemplify/lab>

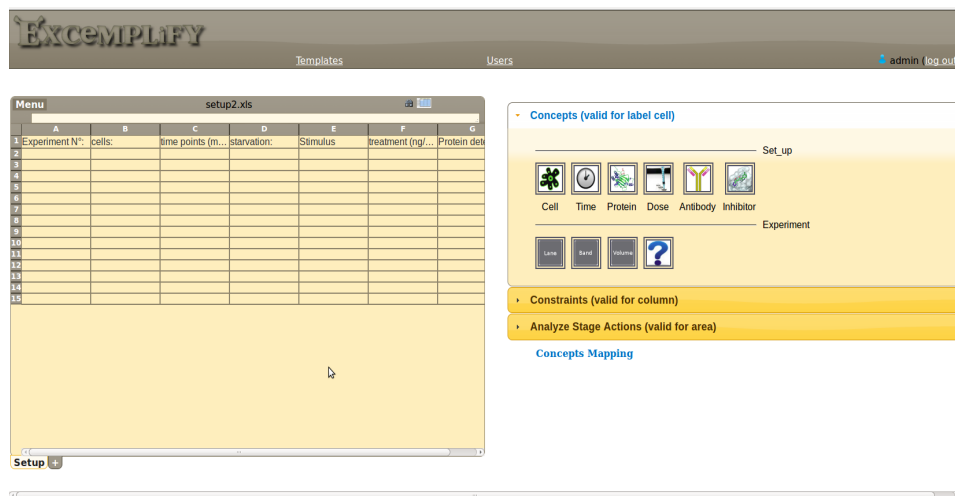
(c) Anonymous

- i. Review and download every public experiments → <http://sabio.h-its.org/exemplify/public>


The first two kinds users need to be authorized to see corresponding pages.

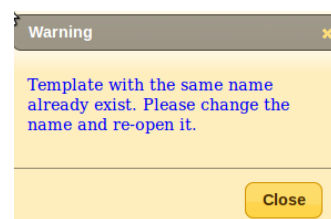
2. Create Set-up Template

(a) Click **Menu** and open a new empty set-up template (.xls) in the excel style workspace

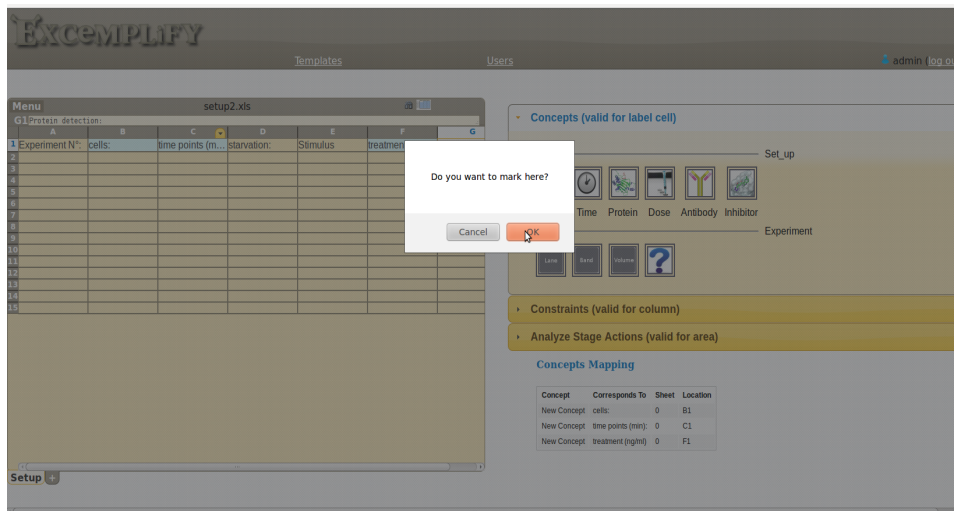


Step 1. Open an empty set-up template

Attention: please make sure the new set-up template has an unique template name, otherwise you will see warning icon like , click on it you will see the warning message .

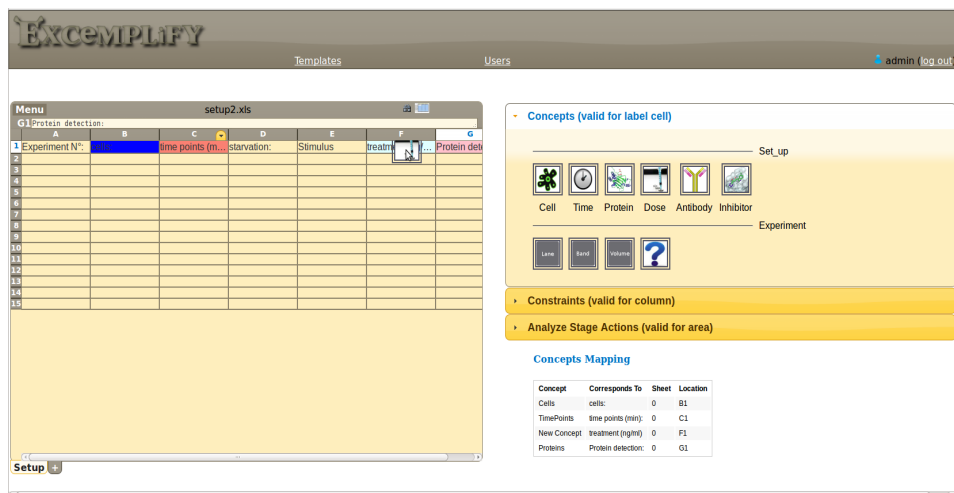


(b) Click on the important template cells and mark them.



Step2. Mark important template cells

(c) Use your mouse, **drag** concept icons in the right panel and **drop** on the corresponding marked cell to build the concepts mapping.



Step3. Build the concepts mapping

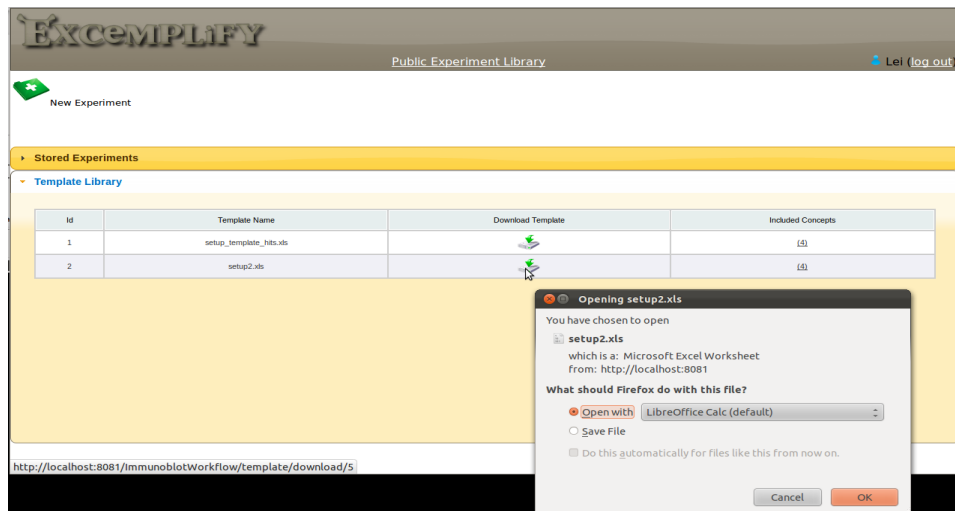
(d) Click **Menu** and save the template.

(e) You can check all templates by clicking the **Templates** link in the header bar

Attention: currently, we only consider **Cell**, **Time**, **Protein** and **Dose** concepts. Other concepts icons listed in the panel are not implemented yet.

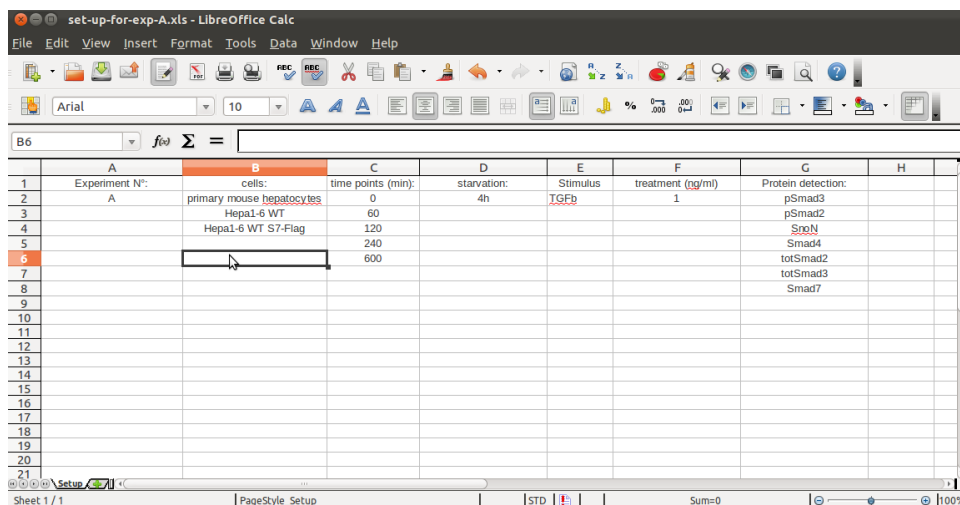
3. Manage Experiments

(a) Download one of the set-up templates from the **Template Library**.




1. Download the set-up template

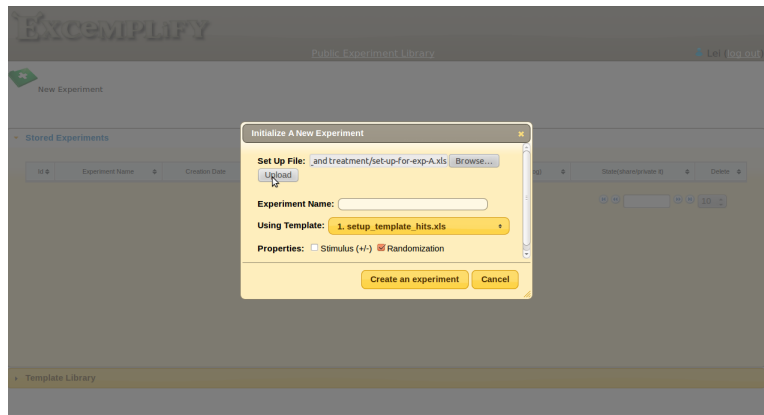
- (b) Using your local excel tool to open the downloaded template, fill in your set-up information, and save it. (e.g. save it as “set-up-for-exp-A.xls”)



2. Use downloaded template and fill in the detail set up information

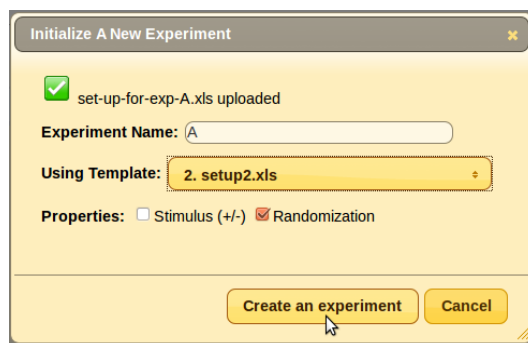
- (c) Click the **New Experiment** button to initial your experiment

- 1) Choose your set-up file (e.g. set-up-for-exp-A.xls) and press the **upload** button, you will see the green icon , if it is successfully uploaded.



3. Upload the set-up file

- 2) Fill in the experiment name, select the template you used from the drop down list, check other treatment properties (e.g. randomization, stimulus) and click **Create an experiment** button to finish experiment initialization. You will see the record for your new experiment show up in the **Stored Experiments**.




- 3) Download the workbook for your new experiment, you will see the automatically generated loading sheet is appended after your original set-up sheet.

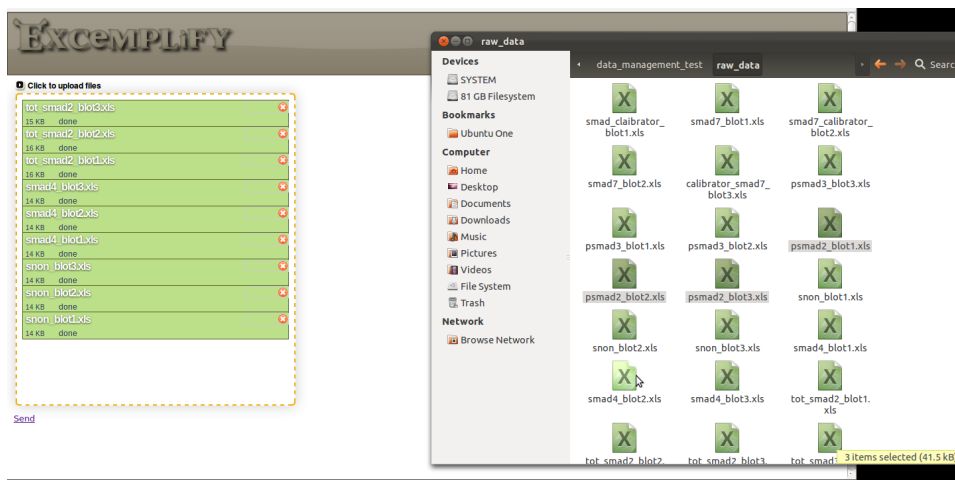
A_workbook.xls (read-only) - LibreOffice Calc

File Edit View Insert Format Tools Data Window Help

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Lane	Time (min)	Cells	Dose(ng/ml)										
2	1	60.0	primary mouse hepatocytes	1.0										
3	2	120.0	Hepa1-6 WT S7-Flag 1.0											
4	3	240.0	primary mouse hepatocytes	1.0										
5	4	240.0	Hepa1-6 WT S7-Flag 1.0											
6	5	600.0	Hepa1-6 WT 1.0											
7	6	120.0	Hepa1-6 WT 1.0											
8	7	0.0	primary mouse hepatocytes	1.0										
9	8	240.0	Hepa1-6 WT 1.0											
10	9	0.0	Hepa1-6 WT 1.0											
11	10	60.0	Hepa1-6 WT S7-Flag 1.0											
12	11	600.0	primary mouse hepatocytes	1.0										
13	12	0.0	Hepa1-6 WT S7-Flag 1.0											
14	13	120.0	primary mouse hepatocytes	1.0										
15	14	60.0	Hepa1-6 WT 1.0											
16	15	600.0	Hepa1-6 WT S7-Flag 1.0											
17														
18														
19														
20														
21														
22														
23														
24														

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(d) Click  icon to open the uploading page, **drag and drop** raw data file/files (.xls or .txt) into the dashed area. After successfully uploading, click the **send** button in the bottom.



4.Upload raw data file/files

Attention: Please make sure the raw data file follows one of the two formates (machine bonded) which are listed below.

snon_blot1.xls - LibreOffice Calc						
File Edit View Insert Format Tools Data Window Help						
A1 fof Σ =						
	A	B	C	D	E	F
1	Band No	Volume	Calib Vol(ng)	Area		
2	Lane 1	1	439329.1	2240		
3	Lane 1					
4	Lane 2	1	1257964.1	2240		
5	Lane 2					
6	Lane 3	1	2472318.28	2240		
7	Lane 3					
8	Lane 4	1	3305614.9	2240		
9	Lane 4					
10	Lane 5	1	1495584.5	2240		
11	Lane 5					
12	Lane 6	1	208685.5	2240		
13	Lane 6					
14	Lane 7	1	4155237.5	2240		
15	Lane 7					
16	Lane 8	1	10470117	2240		
17	Lane 8					
18	Lane 9	1	6184692	2240		
19	Lane 9					
20	Lane 10	1	1701172	2240		
21	Lane 10					
22	Lane 11	1	298692.5	2240		
23	Lane 11					
24	Lane 12	1	1306041.5	2240		
25	Lane 12					
26	Lane 13	1	3040447	2240		
27	Lane 13					
28	Lane 14	1	2433015.5	2240		
29	Lane 14					
30	Lane 15	1	2564895.78	2240		
31	Lane 15					
32						
33						
34						

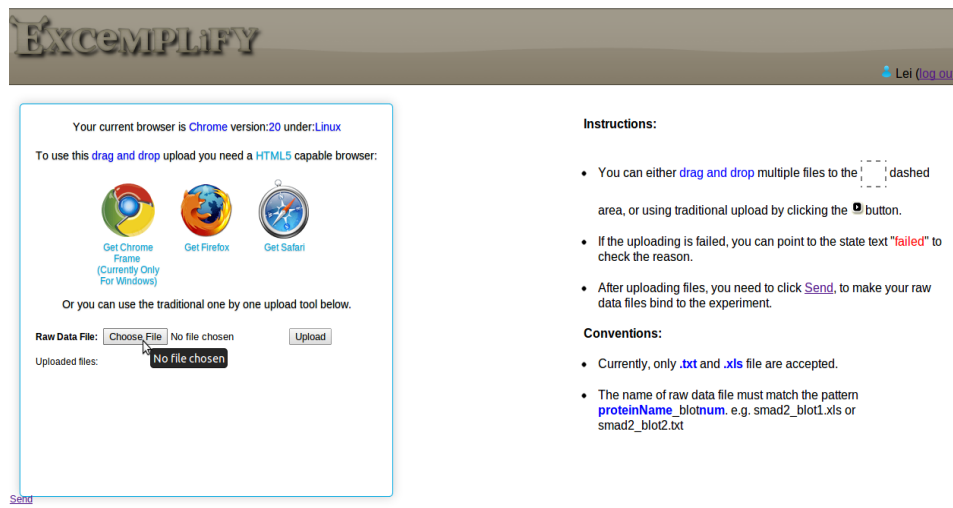
New machine output

snon_blot1.txt (-/Desktop/Link to ImmunoblotProject/Phillip/dose_response_raw_data) - gedit														
Open Save Undo Redo Find														
snon_blot1.txt														
Experiment Id: -1														
Date/Time: 2011-04-06 17:20:25														
Title:														
Experimenter: A150														
Images:														
Description:														
Mol. Weight Standard: None (Rf)														
Mol. Weight Unit: Rf														
Amount unit: ng														
Lanes: Lane 1 Lane 2 Lane 3 Lane 4 Lane 5 Lane 6 Lane 7 Lane 8 Lane 9 Lane 10 Lane 11														
Rows (BLU) (BLU) (BLU) (BLU) (BLU) (BLU) (BLU) (BLU) (BLU) (BLU) (BLU)														
r1 29119 80740 1.45e5 97932 1.32e5 1.57e5 99706 1.97e5 2.85e5 2.98e5 3.83e5														
r2 7799 4491 9934 7776 5141 19903 11387 13690 13227 15951 21623														
Sum 36918 85231 1.55e5 1.06e5 1.37e5 1.77e5 1.11e5 2.11e5 2.98e5 3.14e5 4.05e5														
In Lane 41653 89393 1.59e5 1.13e5 1.45e5 1.95e5 1.2e5 2.18e5 3.16e5 3.26e5 4.14e5														

Old machine output

Attention: If your browser are Chrome or IE, there could be the case that your browser does not support our drag and drop uploading widget. You will see the warning page and another traditional

uploading tool instead. You can upload your raw data files one by one and afterwards click the **send** button.



(e) By clicking the **(active num/inactive num)** link, you will enter the resource page where you can **activate** or **inactive** your raw data files, which will in sequence affect the workbook and the exported layout.

Stored Experiments

Experiment Name	Creation Date	Workbook	Raw data files	Export	Update details (log)	State (share/private it)	Delete
1	A	Jul 12, 2012 4:01:06 PM	(1/93)		Jul 12, 2012 4:20:44 PM	Private	

EXCEMPLIFY

Lei (log out)

A Raw Data Resources

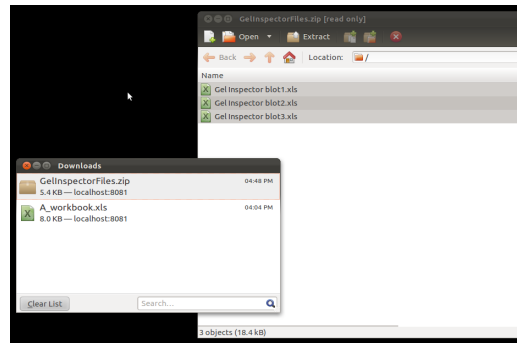
Resource Name	Resource Download	State (activate/inactivate it)	Author
tot_smad2_blot1.xls		Inactive	Lei Shi
tot_smad2_blot2.xls		Inactive	Lei Shi
tot_smad2_blot3.xls		Active	Lei Shi
smad4_blot3.xls		Active	Lei Shi
snon_blot3.xls		Active	Lei Shi
snon_blot2.xls		Active	Lei Shi
smad4_blot2.xls		Active	Lei Shi
smad4_blot1.xls		Active	Lei Shi
snon_blot1.xls		Active	Lei Shi

Back User Home

<http://localhost:8081/immunoblotWorkflow/resource/deactive/8?expid=1>

(f) Export your experiment data into different layouts. **Currently, we only support GelInspector layout.**

- A zip file which compressed separated sheets of GelInspector layout for each blot.
- The workbook for such experiment will be updated after you click on the



Gel Inspector blot1.xls - LibreOffice Calc

File Edit View Insert Format Tools Data Window Help

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	# Index	time	dose	cell	stimulation	smad4-1									
2	1	60.0	1.0	primary mouse hepatocytes	439329.1	856.5									
3	2	120.0	1.0	Hepa1-6 WT	1257964	935.5									
4	3	240.0	1.0	primary mouse hepatocytes	2472318	19182.5									
5	4	240.0	1.0	Hepa1-6 WT	3305615	42548.5									
6	5	600.0	1.0	Hepa1-6 WT	1495585	9585.5									
7	6	120.0	1.0	Hepa1-6 WT	208685.5	4065.5									
8	7	0.0	1.0	primary mouse hepatocytes	4155238	23231702									
9	8	240.0	1.0	Hepa1-6 WT	10470117	4347473									
10	9	0.0	1.0	Hepa1-6 WT	6184692	2589591									
11	10	60.0	1.0	Hepa1-6 WT	1701172	226237									
12	11	600.0	1.0	primary mouse hepatocytes	298892.5	17237.5									
13	12	0.0	1.0	Hepa1-6 WT	1306042	21400729									
14	13	120.0	1.0	primary mouse hepatocytes	3040447	6903804									
15	14	60.0	1.0	Hepa1-6 WT	2433016	1984108									
16	15	600.0	1.0	Hepa1-6 WT	2564896	75514									
17															
18															
19															
20															
21															

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5.Export

(g) You can make your experiment public by clicking on the hand shape share icon, so that anonymous user can see it under ./ImmunoblotWorkflow/public without any authentication.

4. More **Attentions**

- Since we haven't validated our current version application with sample experiment data which have stimulus treatment in each time points. So if you try the application with such kind of data, there could be some errors. Please send us the data package which breaks down the application.
- For each experiment, please make sure the uploaded raw data matches corresponding set up and generated loading. Currently, we have not implemented any validator to check the mismatch. The exported layouts will be strange if the raw data files do not match the loading.
- Please pay attention to your confidential data during test, because every experiment which is shared to public can be accessed by anonymous users without any user name and password.