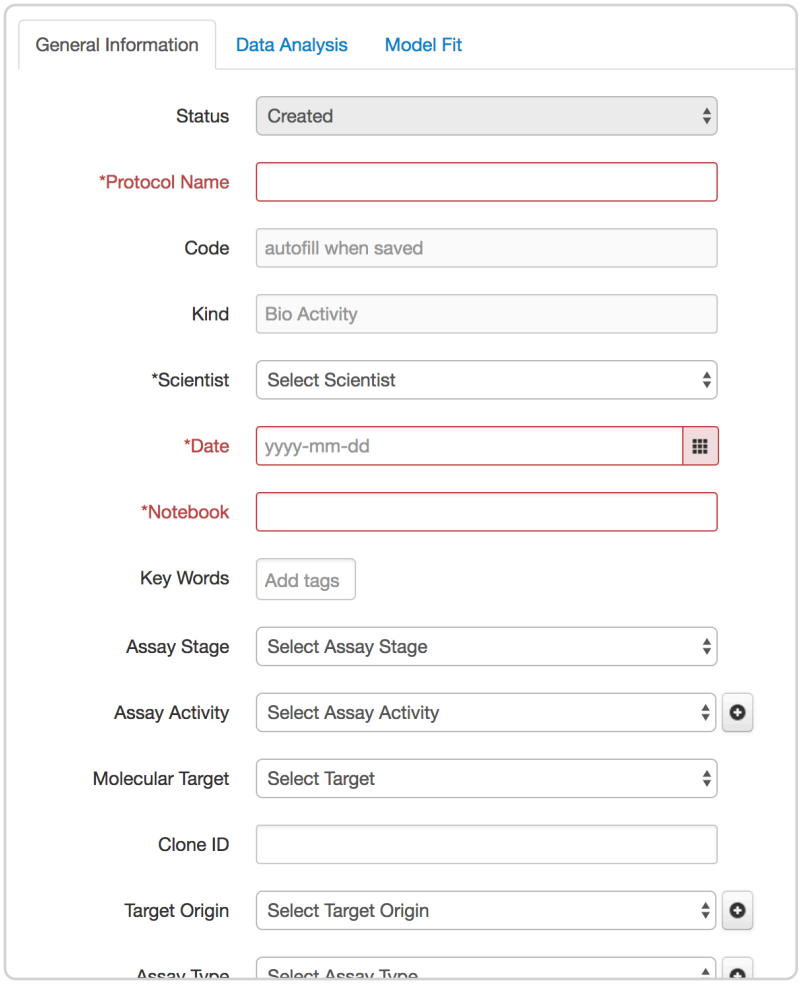
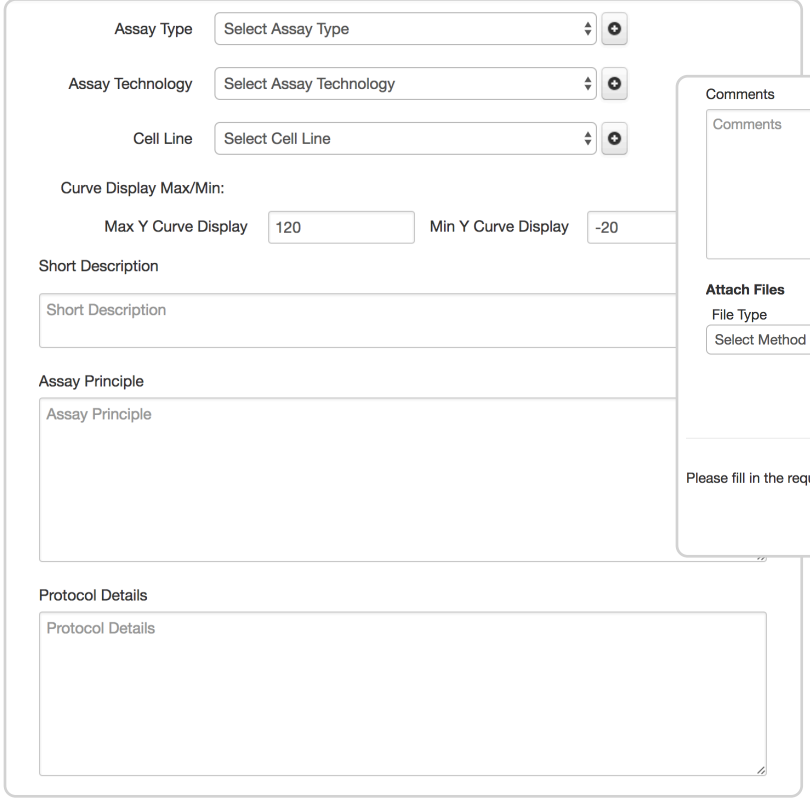
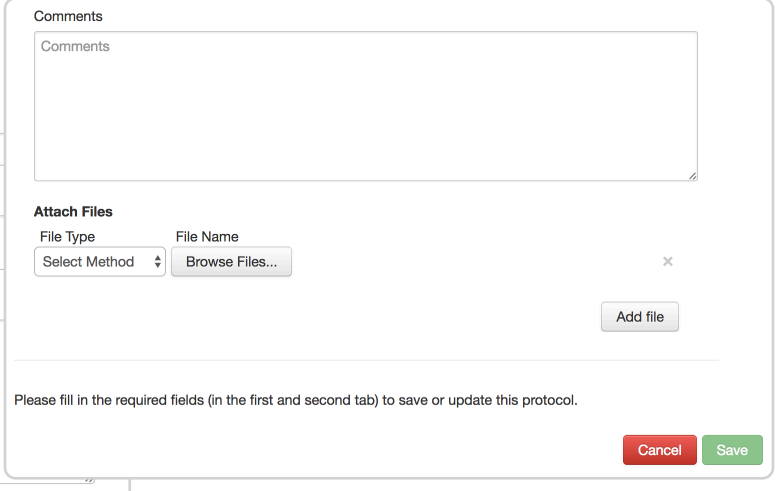


To create a Plate Analysis Experiment, start by creating a new Plate Analysis Protocol. The Plate Analysis Protocol module has three tabs. Only the first two tabs are required to save a new protocol.

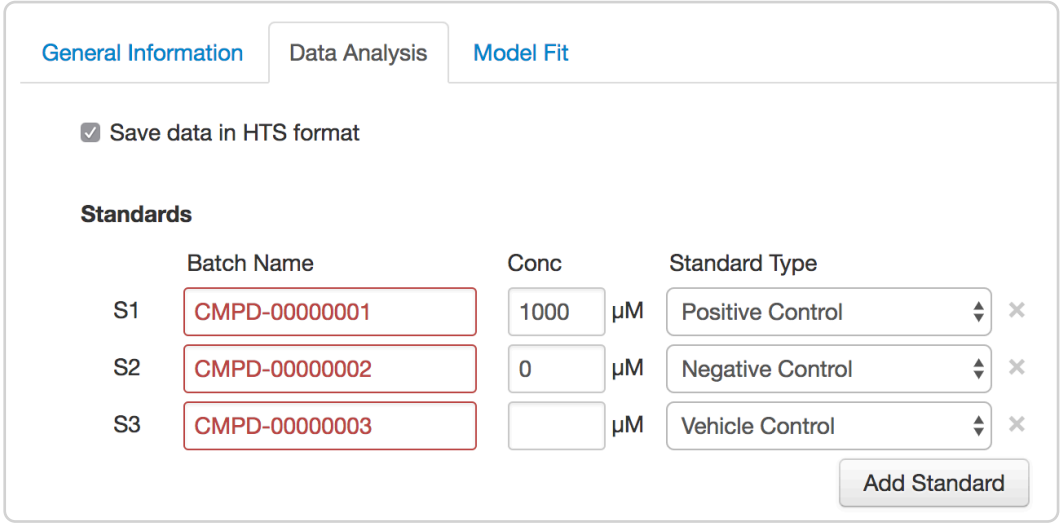
In the first tab, General Information, enter a Protocol Name, Scientist, Date, and Notebook. These are the only fields required. You may fill out the rest of the form if desired. You may also attach a reference file.





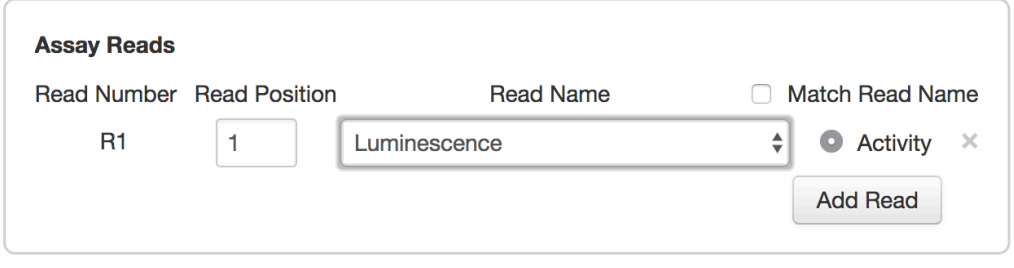
Switch to the Data Analysis tab. Here you will enter your controls, assay parameters, analysis parameters, and other details. Once you fill this out for protocol, those same details are autofilled in your experiment as soon as you choose a protocol for that experiment.

First enter some Standards. In the example below, a Positive Control, Negative Control, and Vehicle Control are all set. The Batch Name is validated against your database, and will be in an error state if there is a problem with the batch ID you are using.

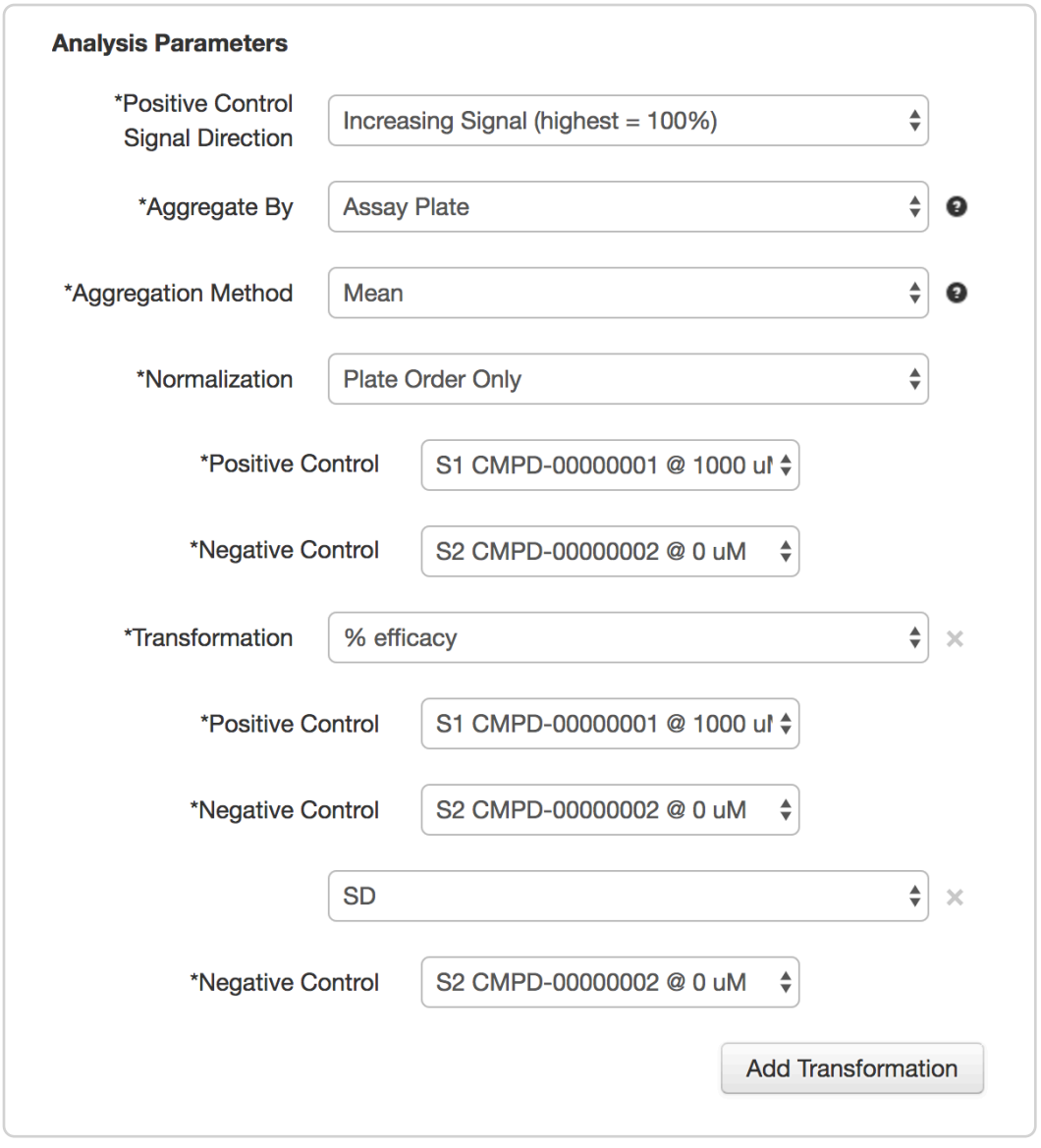


Pick either a Dilution Factor or a Compound Transfer Volume. You may also add an Assay Volume.

An Instrument Reader is required. In this example, Generic Plate is used.



Next enter some Assay Reads. Though not required, this example uses one read, Luminescence, as part of the analysis.

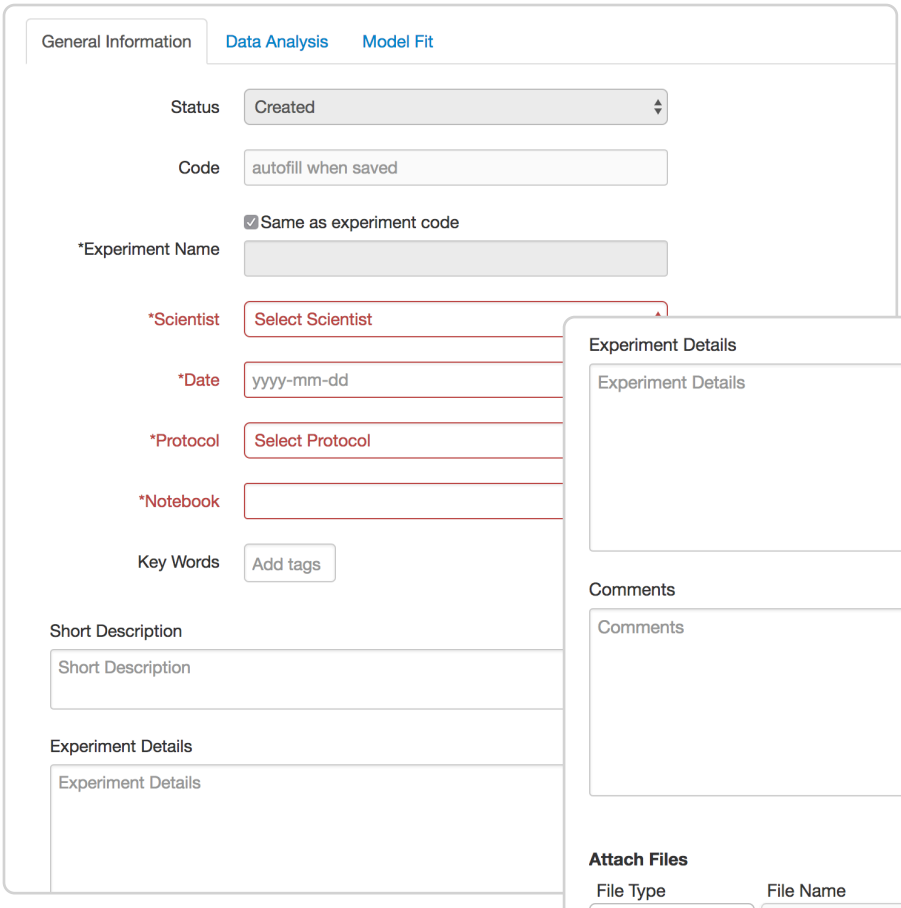


All Analysis Parameters are required. All Positive and Negative Control options are filled in with the compound IDs entered earlier in the form. Choose which compound you would like to use for each Positive and Negative Control.

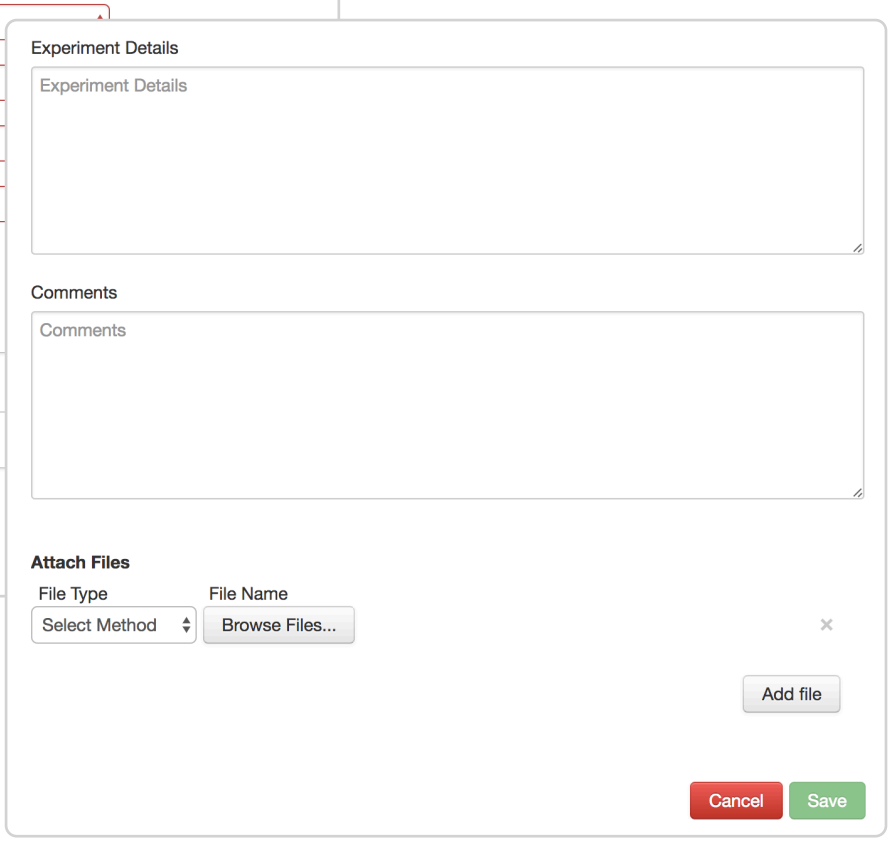
In this example, an extra Transformation Rule is also selected; both % Efficacy and SD will be run.

If you choose to fill in the curve fit rules in the Model Fit tab, those rules will be copied over to the new experiment.

Once you are done filling out the protocol forms, save the protocol. Next, create a new Plate Analysis Experiment.

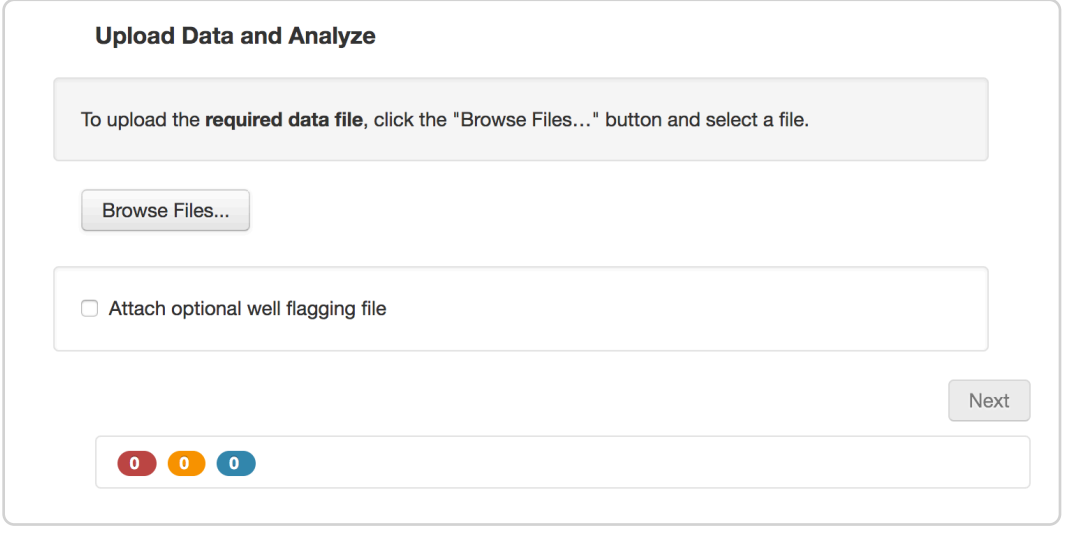


The Experiment Name, Scientist, Date, Protocol, and Notebook are required for your new Plate Analysis Experiment. Select the protocol that you just created.



Once you have filled out the first tab, switch to the Data Analysis tab. Everything you filled in for the protocol will be filled in here. You may change any of these settings for this experiment.

Scroll down to Upload Data and Analyze. Here you can upload your plate. You may upload any number of plates. Put all plates in a compressed zip file before uploading. See the next canvas for plate file examples.



A plate file follows this template. The Plate Information is required, as well as the layout of the plate.

Valid Compound IDs must be entered. The Plate Analysis module will return an error if any IDs are invalid.

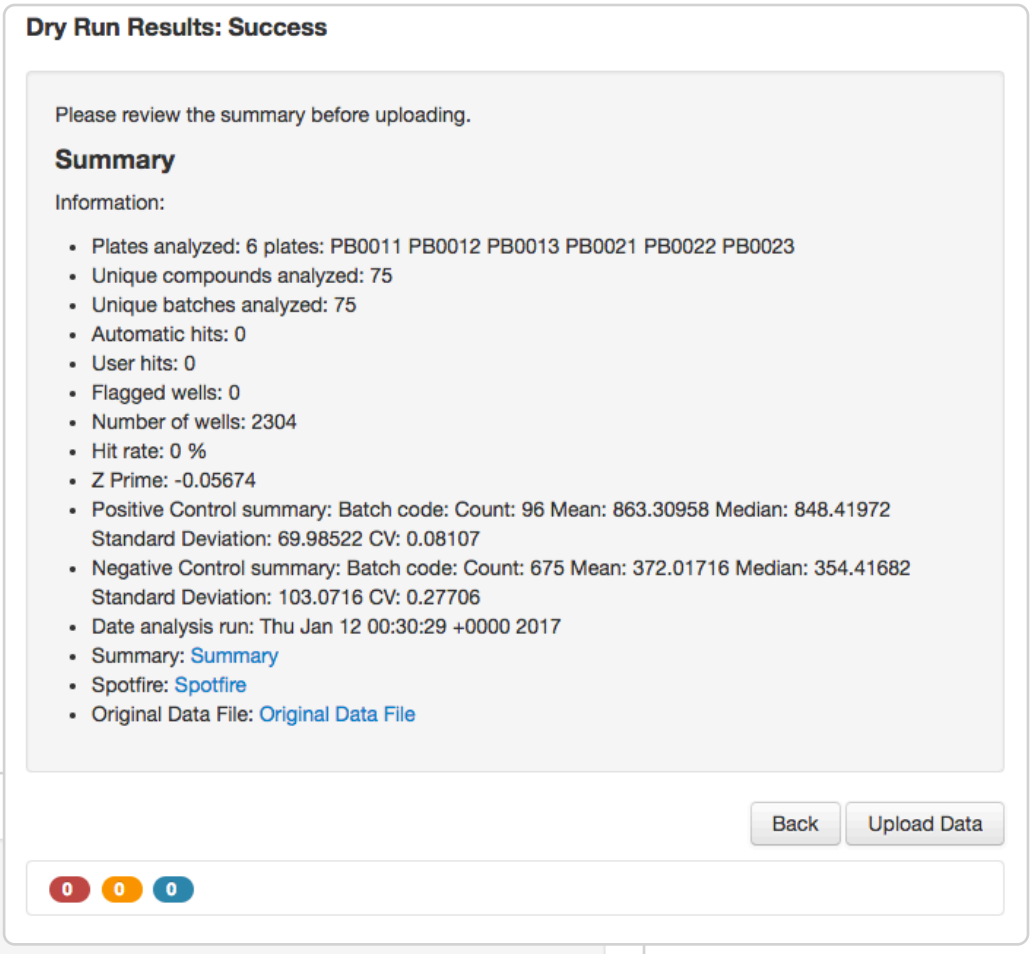
The first tab in your plate file should have the Compound IDs. The second tab should have concentrations, and the third data.

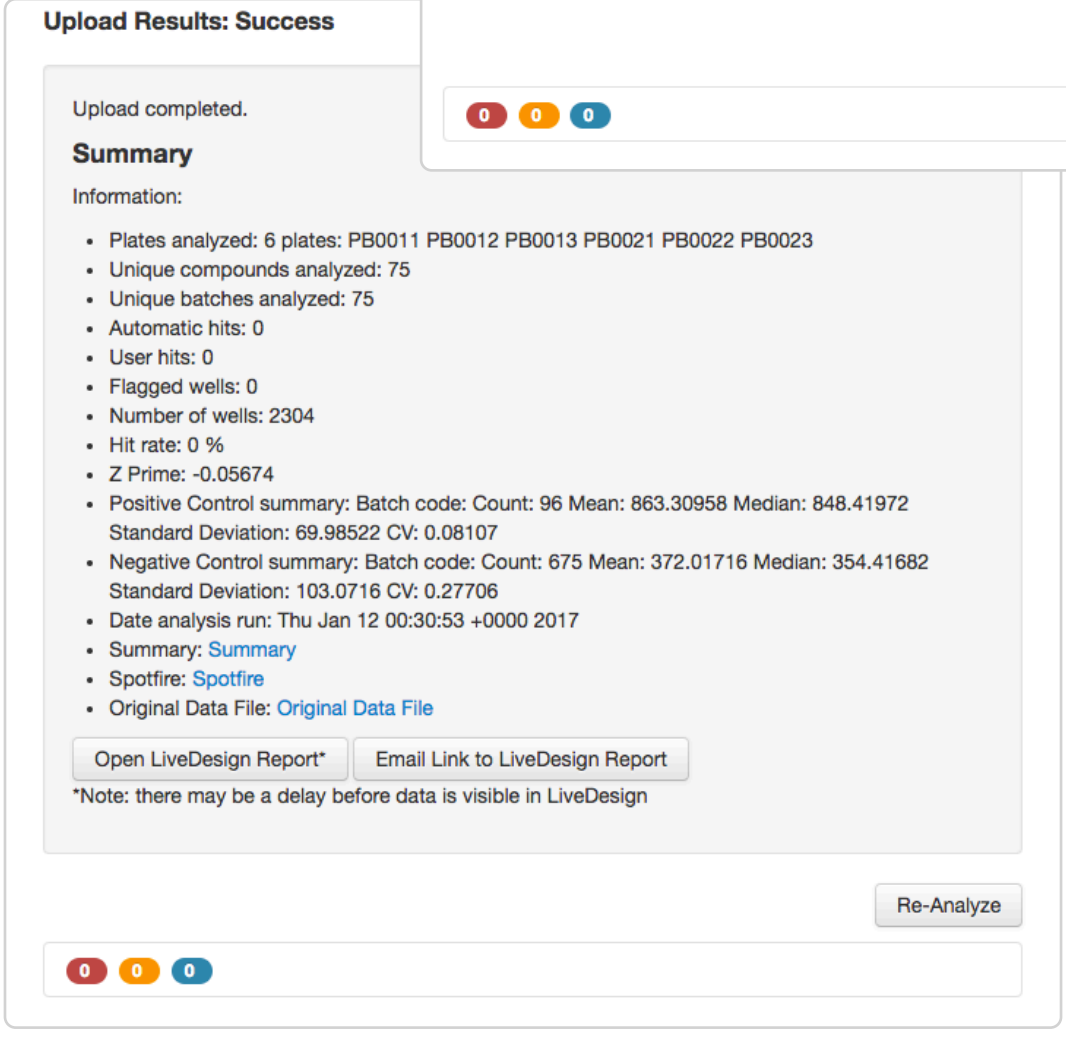
	A	B	C
1	Plate Information		
2	Assay Barcode	PB003	
3	Plate Order	1	
4	Plate Format	96	
5			
6	Plate		
7	Row/Col	1	2
8	A	CMPD-0000001-01A	CMPD-0000010-01A
9	B	CMPD-0000001-01A	CMPD-0000011-01A
10	C	CMPD-0000001-01A	CMPD-0000012-01A
11	D	CMPD-0000001-01A	CMPD-0000013-01A
12	E	CMPD-0000002-01A	CMPD-0000014-01A
13	F	CMPD-0000002-01A	CMPD-0000015-01A
14	G	CMPD-0000002-01A	CMPD-0000016-01A
15	H	CMPD-0000002-01A	CMPD-0000017-01A
16			

	A	B	C	D	E	F	G	H
1	Plate Information							
2	Assay Conc Units	uM		Concentration of Tested lots in the assay plate. [uM]				
3	Plate Format	96						
4								
5	Plate							
6	Row/Col	1	2	3	4	5	6	7
7	A	0	500	500	500	500	500	500
8	B	0	500	500	500	500	500	500
9	C	0	500	500	500	500	500	500
10	D	0	500	500	500	500	500	500
11	E	1000	500	500	500	500	500	500
12	F	1000	500	500	500	500	500	500
13	G	1000	500	500	500	500	500	500
14	H	1000	500	500	500	500	500	500
15								

	A	B	C	D	E	F	G
1	Plate Information						
2	Read Name	Activity					
3	Assay Barcode	PB003					
4	Plate Order	4					
5	Plate Format	96					
6							
7	Plate						
8	Row/Col	1	2	3	4	5	6
9	A	1	72.74227906	65.63804044	58.57975162	60.70842604	86.88882396
10	B	0	75.78895057	83.02005059	97.1216446	91.4208727	103.3378534
11	C	0.002	80.88937835	89.18231832	92.04519063	99.34121972	106.7780949
12	D	0	68.89648059	78.69777268	68.49392039	101.0633383	111.7426711
13	E	99.45	45.41013942	41.95491426	41.15978294	96.31252856	100.0244733
14	F	101.4	24.00052942	20.07781499	19.80511291	74.95186509	90.93140744
15	G	100	11.31438903	9.069841198	8.828105295	68.58981563	78.65881524
16	H	100	2.169379952	6.195980891	5.925276635	42.15169927	60.95815322
17							

Once you have selected your plate zip file, click Next. ACAS will validate your file and give you preliminary results. If everything looks good, then click Upload Data.

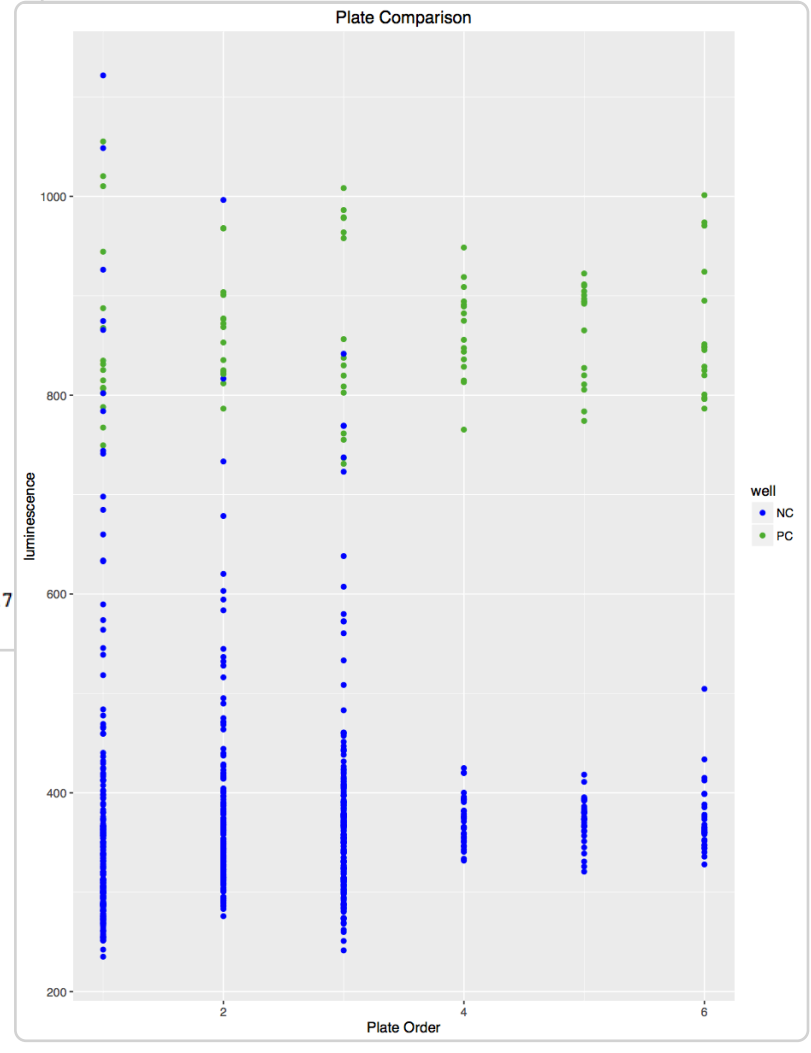


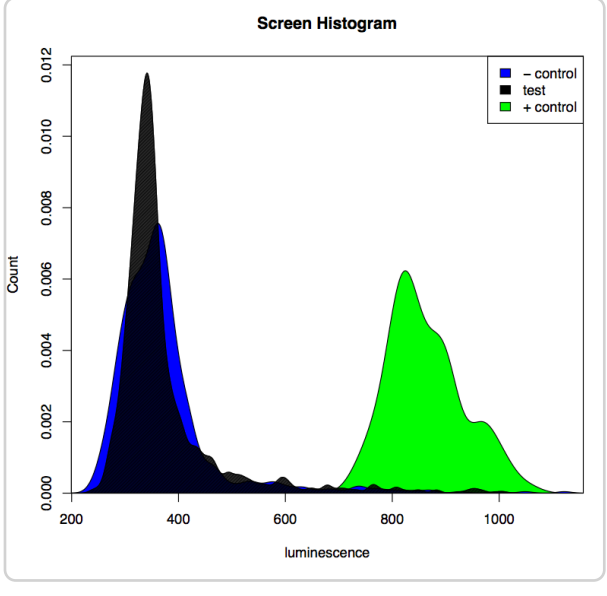


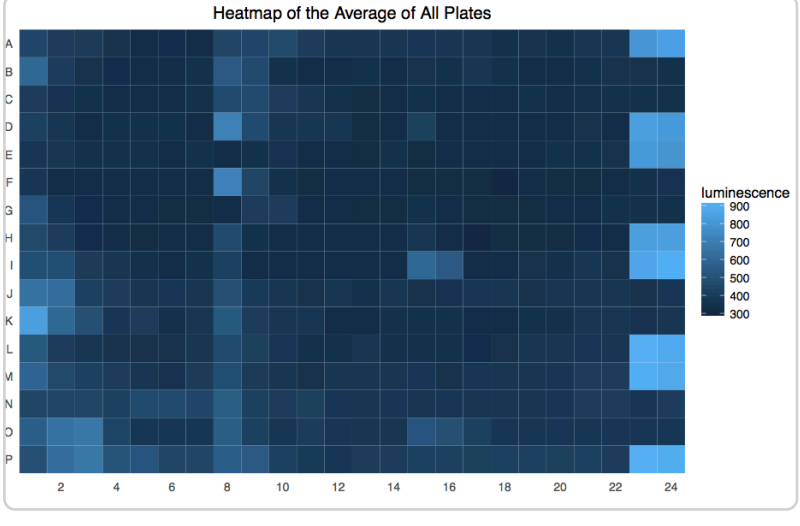
The success summary will include details about the experiment, a link to open the experiment in your data viewer, and links to download files. You can download a summary file, the Spotfire file, and the original data file. You can also choose to Re-Analyze the experiment.

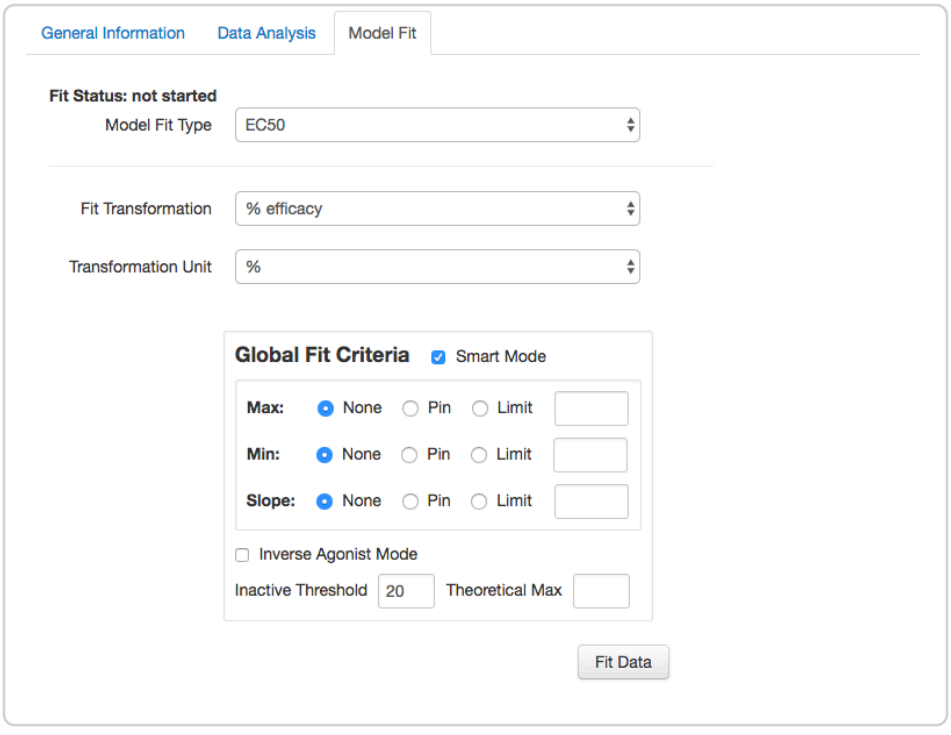
```
-------------------------------------------------------
Plates analyzed: 6 plates:
  PB0011
  PB0012
  PB0013
  PB0021
  PB0022
  PB0023
Unique compounds analyzed: 75
Unique batches analyzed: 75
Automatic hits: 0
User hits: 0
Flagged wells: 0
Number of wells: 2304
Hit rate: 0 %
Z Prime: -0.05674
Positive Control summary:
  Batch code:
  Count: 96
  Mean: 863.30958
  Median: 848.41972
  Standard Deviation: 69.98522
  CV: 0.08107
Negative Control summary:
  Batch code:
  Count: 675
  Mean: 372.01716
  Median: 354.41682
  Standard Deviation: 103.0716
  CV: 0.27706
Date analysis run: Thu Jan 12 00:30:53 +0000 2017
```

Here is an example of a summary file for a Plate Analysis experiment that was run with six plates.









At this point if you would like to fit curve data for your experiment, you can do so by clicking on the Model Fit tab. Choose the Model Fit Type, Fit Transformation, and Transformation Unit. Then adjust the Global Fit Criteria if you so choose.

The Model Fit Type, Global Fit Criteria, and next steps work in the same way as the Dose Response module. You can fit your data, and then open in your data view or curate curves further.