

User Guide of BioHub 3.0

Overview

The brand new [BioHub 3.0](#) has arrived to make your job easier than ever before. In this year, we bring you a new way to edit your reports and search whatever you need in one step. Here are some new features:

- An editor which can automatically compile your experimental reports.
- A search intelligent search engine based on machine learning.
- A society that shares your ideas.

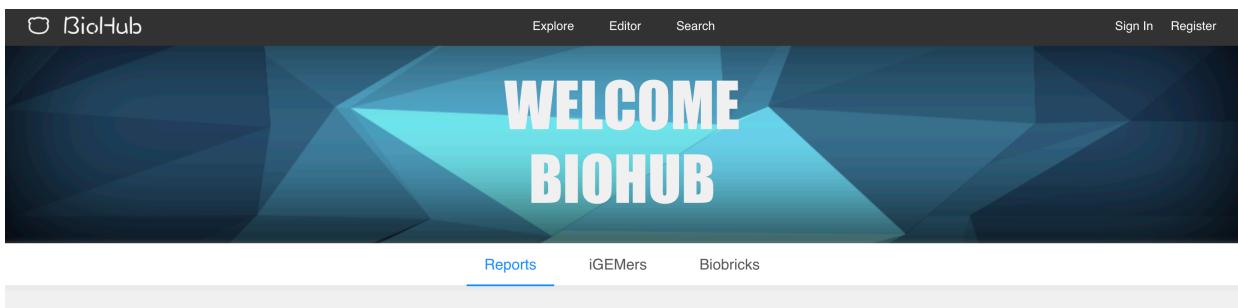
Click [here](#) to take it a try. You'll learn how to get started and gain confidence that Biohub 3.0 can do whatever you need it to do.

FeedBack

All we want to do is to make your work easier and we want to make it even further. If you have any suggestions, please create issues on our [Github repository](#).

Getting Started

Have a first look at our website. There are three tags which are [reports](#) , [iGEMers](#) .

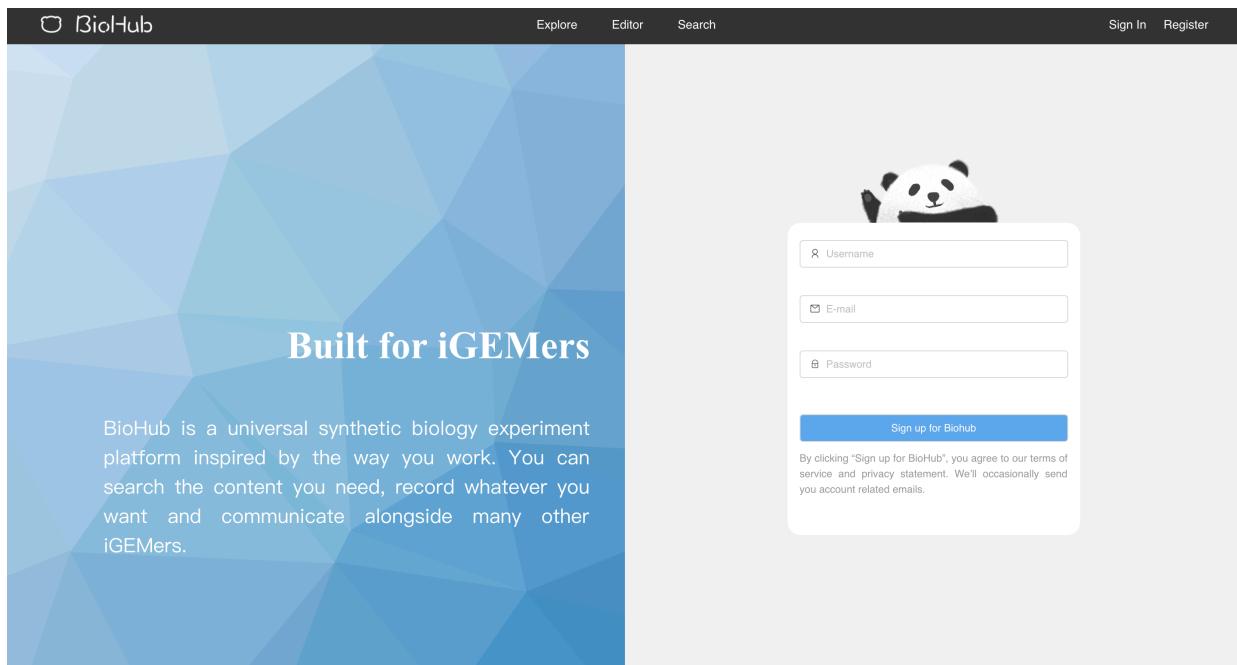


[Reports](#) shows some most popular reports which is recommended by our algorithm. Click these articles and you can see what your partners are doing. Feel free to leave a comment on these reports.

[iGEMers](#) is a fuxin part of our website. In this part, you can find those persons who share a common interest.

Apply an account

Now, let's apply an account to enjoy Biohub 3.0. In the right of navigator located [Sign in](#) and [Register](#) buttons. Click the [Register](#) button to apply a new account. **We promise to protect users privacy.**



Look! A lovely panda is shaking its hands to welcome you once you hang your mouse over it.

Edit a new report

This online `editor` is a good way to recording your experiment. Once finishing reading this brief guide, you will know how fast and how easy we can achieve this goal.

We divide an experiment report into three parts: `info`, `Processes` and `Result`

Here is the appearance of our `editor` and it initials an empty report when the `editor` button on the top is clicked:

A screenshot of the BioHub Editor interface in a Safari browser window. The window title is 'Safari 浏览器' and the address bar shows 'biohub.tech'. The main interface has a dark header with 'BioHub' and navigation links 'Explore', 'Editor', and 'Search'. On the left, there's a sidebar with tabs 'Step' and 'Process', and a list of step icons: Centrifuge, Add Liquid, Remove, Mix, Move, Repeat, Standing, Preserve, Text, and Add Solid. The main workspace is divided into sections: 'I → R' (Info to Result), 'Info' (with Title, Labels, Abstract fields), and 'Result' (empty). Top right buttons include 'Save', 'Preview', 'Export', and 'Submit'. Bottom right are circular icons for 'INFO', 'RSLT', 'VAR', and other functions.

In the Info block, you can input title, labels and abstract like this:

I → R

Save **Preview** **Export** **Submit**

Info

Title: Here is Title

Labels: label1 × label2 ×

Abstract: Here is Abstract. Enjoy our editor and have fun.

Result

The left sider is a toolbox that contains `process` and `steps`. You can see there are some several steps and process that is created for you, you can create more stepstep and process as you wish.

Now let's click a `Add` step to see what will happen.

Safari 浏览器 文件 编辑 显示 历史记录 书签 开发 窗口 帮助

biohub.tech

BioHub

Explore Editor Search

Step **Process**

- Input search steps +
- Centrifuge
- + Add Liquid
- Remove
- Mix
- Move
- Repeat
- Standing
- Preserve
- T Text
- + Add Solid

I → I → R

Save **Preview** **Export** **Submit**

Info

Title: Here is Title

Labels: label1 × label2 ×

Abstract: Here is Abstract. Enjoy our editor and have fun.

Centrifuge

Centrifuge

Speed: 12000 rpm

Time: 30 s

Temp: 25 °C

Notes: Here you can leave some notes or annotations.

Result

INFO
RSLT
VAR
↑
↓

A new `Centrifuge` Step is inserted into the report. The only thing you need to do is to fill some blanks. That is how you record a '12000 rpm centrifuge for 30 s at 25 degree.'. Is that amazing? But we can make it much more faster.

`Process` is a set of steps or a template. Let's try `Gel Extraction`.

The screenshot shows the BioHub software interface. On the left, there's a sidebar with tabs for 'Step' and 'Process'. Under 'Step', there are icons for Centrifuge, Add Liquid, Remove, Mix, Move, Repeat, Standing, Preserve, Text, and Add Solid. The 'Process' tab is selected. In the main area, a process titled 'Gel Extraction' is being edited. The process flow is: I → T → + → + → H → I → I → + → I → I → C → I → X → H → + → S. Below this, there are sections for 'Text' and 'Add Liquid'. The 'Text' section contains a note: 'Cut off the Gel part containing the target band and weigh the cut off Gel part'. The first 'Add Liquid' section specifies a volume of 300 μL for 'Buffer B2' in an 'EP_tube' container. The second 'Add Liquid' section specifies a volume of 1/3 of the Buffer B2 volume for 'isopropanol' in an 'EP_tube' container. There are also sections for 'Move', 'Centrifuge', 'Remove', and 'Add Liquid'. On the right side of the interface, there are several circular buttons labeled 'INFO', 'RSLT', 'VAR', an upward arrow, and a blue shield icon.

A serial of steps is inserted into your report and most of these blanks is accomplished by our templates.

It is true that the available `steps` and `process` are not able to meet all your demands. But you can create new steps and process. Here is an example:

This screenshot shows the same BioHub interface as above, but with a modal dialog box open over the process editor. The dialog is titled 'New Step' and contains fields for 'Name' (set to 'Add something into burette'), 'Template' (with options 'input buretee null', 'input name null', and 'input quantity 30 ml'), and 'Yield' (containing the expression 'put @quantity of @name into @buretee.'). At the bottom of the dialog are 'Cancel' and 'OK' buttons. The background process editor shows the 'Gel Extraction' steps and the sidebar with various step icons.

A new `step` called `Add something into burette` is created in the step bar and you can insert it into your report.

Add something into burette

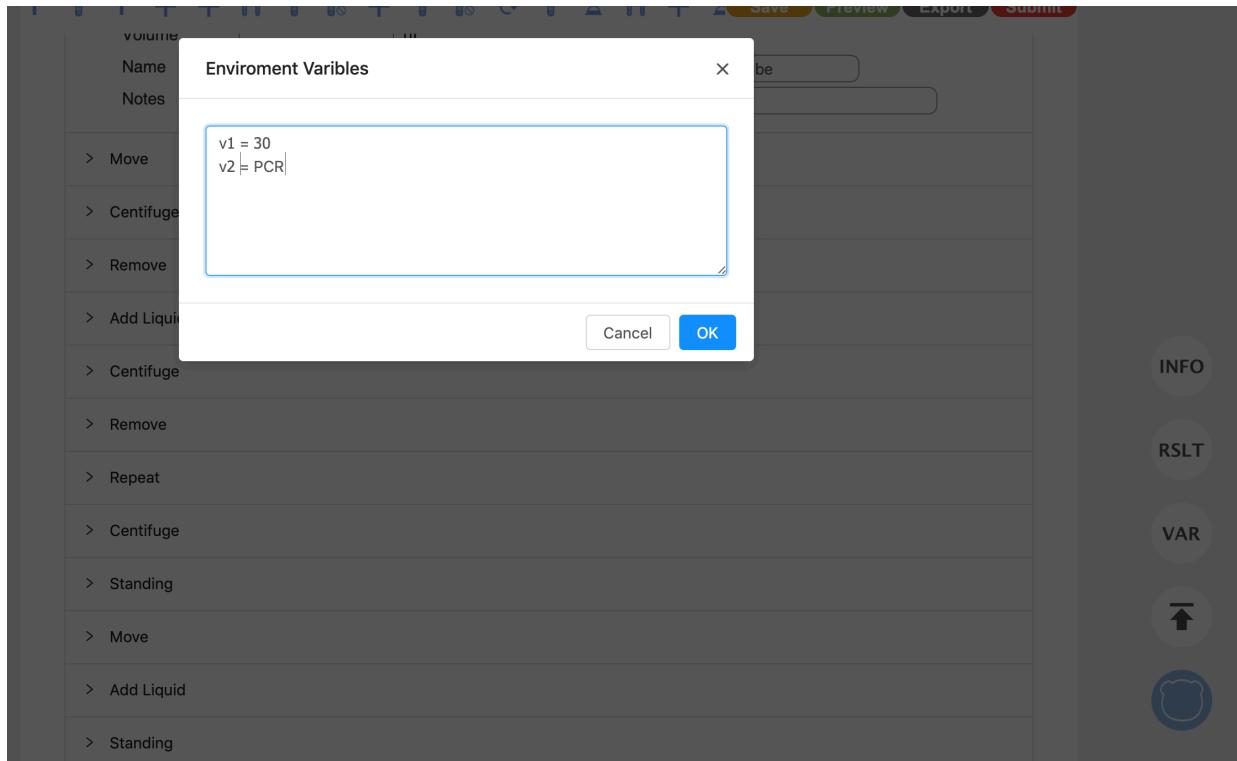
Delete

✓ Add something into burette

burettee
name
quantity
Notes

 ml

Environment Variable is another way to help you to accomplish your writing. Click the VAR button and define some variables.



In that way, the editor will replace all `@v1` pattern into `30` and `@v2` pattern into `PCR` in the report.

The third section of a report is results. In this section, it is free to insert some texts, pictures, lists and tables to record the results.

Click these buttons on the right side of editor to insert them into your report.

Result

Text

Here is the text field

Pictures

Upload

Table

| col 1 | col 2 | Action |
|-------|-------|---|
| 1-1 | 1-2 | edit delete |
| 2-1 | 2-2 | edit delete |

Add Row Add Column

List

T
I
G
H
C

If you can not find those buttons, click the little blue cat button.

After finishing editing, click the **Save** button to save it and **preview** button to have a look of your work.

The screenshot shows the BioHub editor interface with a completed experiment document. The document title is "Here is Title". It includes sections for "Introduction", "Materials and Equipment" (listing "material1,material2,material3"), "Result" (containing a text field with "Here is the text field" and a table), "Experiment Procedure" (listing 13 steps from centrifuging to standing), and "Notes" (containing annotations like "Waiting for wash solution evaporate spontaneously"). On the left, there's a sidebar with a list of experimental steps: Centrifuge, Add Liquid, Remove, Mix, Move, Repeat, Standing, Preserve, Text, Add Solid, and Add something into burette. At the top right, there are buttons for Save, Edit, Export, and Submit. A vertical toolbar on the right side contains icons for Text, Picture, Grid, Quotes, and a blue cat icon.

You can see all sentences are produced automatically. Click **Export** button to download your work in **PDF**.

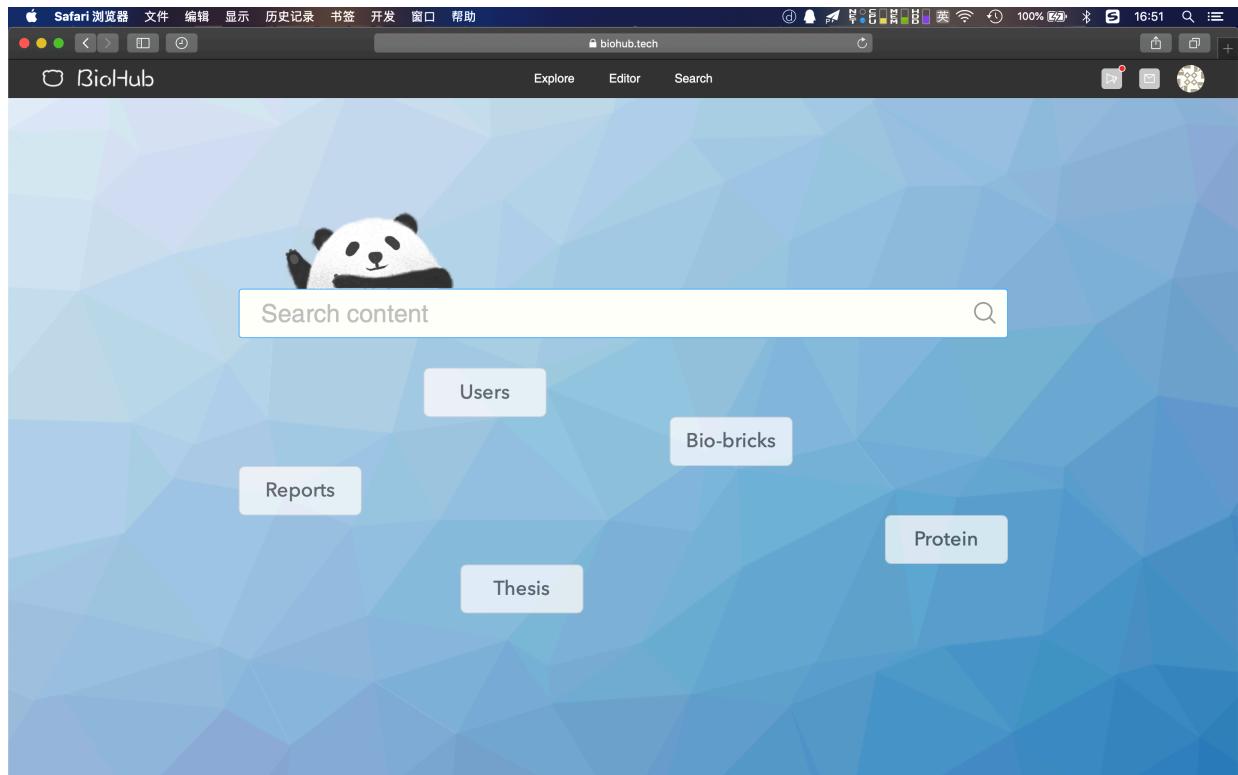
Intelligent Search Engine

Our Search Engine is much more Intelligent and useful than Biohub 2.0.

It not only supports searching Users or Articles, but also supports customize filter and sort rules in **natural language**. It means we support the sentences like 'reports by Jiyan in this year' or 'reports with label PCR'. It is gorgeous and easy to use.

We support a integration search that connected to more than 50 websites like NLM, PubMed, PMC and so on.

`Bio-bricks` is the traditional function in Biohub 2.0, and it will be supported in the long term.
`BLAST` is useful to search gene segment like 'AGGT'.



Society

You can see the details of all reports and leave a comment or like the report. In that way, the author will receive the feeds.

In that way, we build a scientific society where academic discussion is possible

The screenshot shows a web browser window for Safari (Mac OS) displaying the BioHub 3.0 frontend at biohub.tech. The main content area is titled "Here is Title". It includes sections for "Introduction" (with placeholder text "Here is Abstract. Enjoy our editor and have fun."), "Materials and Equipment" (listing "material1,material2,material3"), and "Result" (containing a table with two columns: "col 1" and "col 2", with rows "1-1", "1-2", "2-1", and "2-2"). Below these sections is a "Experiment Procedure" section with a numbered list of 11 steps. To the right of the main content is a sidebar titled "research" containing a text box with a repeating centrifuge protocol, a user profile for "ertuil" (following), and social sharing icons for "like" and "share". The top of the screen shows the Mac OS menu bar and system status indicators.

Here is Title

Recorder: ertuil Date: October 14, 2018

Introduction:

Here is Abstract. Enjoy our editor and have fun.

Materials and Equipment:

material1,material2,material3

Result:

Here is the text field

| col 1 | col 2 |
|-------|-------|
| 1-1 | 1-2 |
| 2-1 | 2-2 |

Experiment Procedure

- 1.12000 rpm centrifuge for 30 s at 25 degree.
- 2.Cut off the Gel part containing the target band and weigh the cut off Gel part
- 3.Add μ L Buffer B2 to EP_tube
- 4.Add μ L isopropanol to EP_tube
- 5.Move solution from EP tube to adsorption column
- 6.11000 rpm centrifuge for 30 s at 25 degree.
- 7.Remove filtrate
- 8.Add 500 μ L wash solution to adsorption column
- 9.12000 rpm centrifuge for 30 s at 25 degree.
- 10.Remove filtrate
- 11.Repeat last 3 step for 1 times

Notes

Here you can leave some notes or annotations.
300 times weight of Gel
1/3 volume of the Buffer B2

research

labels: ccc ddd ddd

1. Centrifuge 1.5 mL bacterium solution at 11000 rpm, few sediment getted. Remove the supernatant. Repeat twice. 2. Add 250 μ L Buffer P1, resuspend cells. 1. Centrifuge 1.5 mL bacterium solution at 11000 rpm, few sediment getted. Remove the supernatant. Repeat twice. 2. Add 250 μ L Buffer P1, resuspend cells.

ertuil
following

12 190

Like Share

For more information

If you want to learn more about Biohub 3.0, please contact us on [github](#).