

# LabCollector

*"Your Laboratory management solution"*

User guide

## Query Builder

Version 2.1 – September 2018



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# 1. INTRODUCTION

Thank you for choosing one of AgileBio's solutions. We hope it will help you to expand LabCollector's data mining capabilities.

This add-on is a visual database query builder to create custom data reports/exports, turning all data relations you created into reporting logic.

Users of LabCollector's **Query Builder add-on** can easily design any type of query with filters allowing the extraction of part or all of the LabCollector records registered in the different modules. These queries will follow record links created when entering data.

You can construct different types of queries using the following types of links:

- **Normal links:**  
Based on LabCollector generic links made with the **Add links** button (see LabCollector User Guide chapter 8.9.1).
- **Custom links:**  
Based on LabCollector links made with **Link to another record** custom field (see LabCollector User Guide chapter 8.9.2).
- **Autocomplete links:**  
Based on LabCollector links made with **Autocomplete on record name** custom fields (see [KB-118](#) and [KB-97](#) part 3).
- **Name links:**  
Based on LabCollector data with derivate names.

Different types of Filtering methods can also be used in queries:

- **By value** – this filter lets the user specify value of one of the fields in a particular module.
- **By module** – filter between the fields of different modules.
- **By project code** – based on LabCollector data project code.

Queries are saved for later reuse and regular reporting such as recurrent reports. The generated reports can be exported in CSV or Excel format.

## 2. GETTING STARTED

You can get the **Query Builder Add-on** by downloading from <https://www.labcollector.com/clientarea/downloads.php>. LabCollector software has to be installed first as it contains the framework. LabCollector support documents for installation are available on our website. The **Query Builder Add-on** can be installed on any operating system (Windows, MacOS X and Linux). Installation is performed by AgileBio on cloud hosted instances.

As a general note, making a backup of LabCollector prior to installing or updating a new add-on is recommended.

A changelog is included in the download package. It is also available by navigating the browser URL on LabCollector at \*/query\_builder/changelog.txt.

### 1/Manual mode:

Unzip and paste Query Builder add-on folder in the extra modules folder. For Windows, it should look like:

```
C:\Programs\AgileBio\LabCollector\www\lab\extra_modules\query_builder
```

Open LabCollector, the Query Builder add-on module is now activated. Click on the module, a confirmation screen will help you to proceed with the installation.

### 2/Automatic mode from LabCollector interface:

You can also use LabCollector Menu

**Admin > Setup > Upload/Add Addons > Upload Addon ZIP > Add Addon**

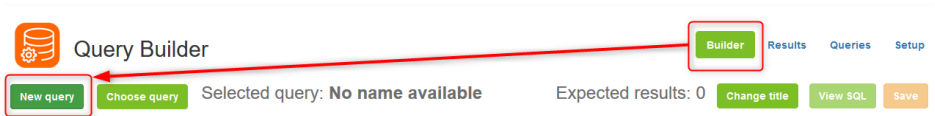
Return to the LabCollector homepage, the **Query Builder add-on** module is now activated. Click on the module to finish the installation.

The add-on will remain in a 30 days free trial mode until you save the final license in the **Setup** tab. To obtain a valid license, you have to copy and send the computer activation key to AgileBio. You may also use the client area of the labcollector.com website to obtain or update a license.

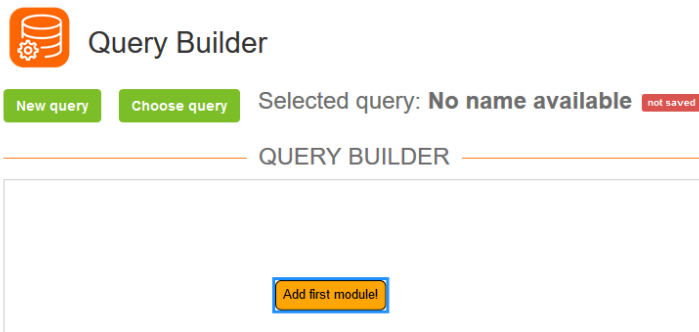
### 3. QUERIES

#### 3.1. Module and link selection

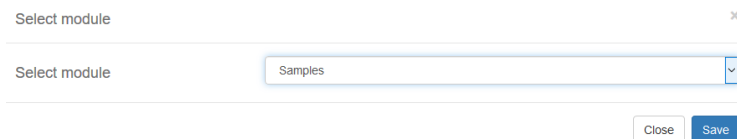
To create a query click on the **Builder** tab and then on **New Query**.



Click on **“Add first module!”** to add your first module of interest.

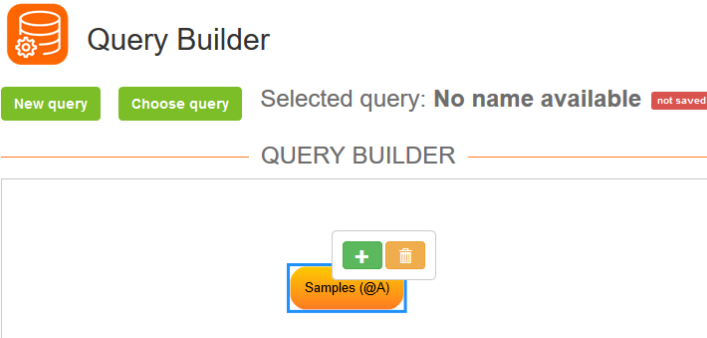


A pop-up appears prompting the selection of a module. Click on **Save** to add this to your query.

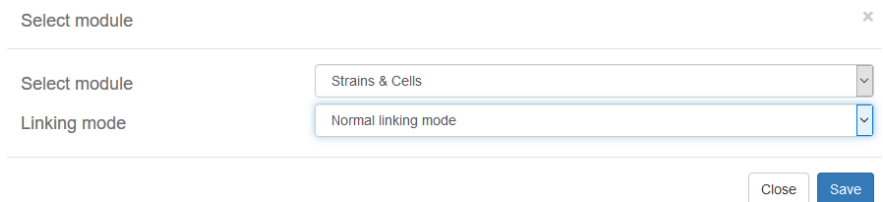


To delete a module click on the module and then click on the orange trash can/rubbish bin symbol.

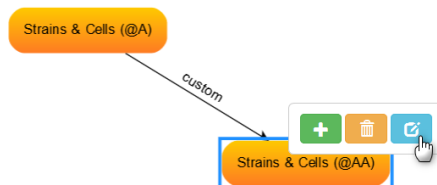
To add subsequent modules click on the first module and then click on the green button with a plus symbol.



Another popup will appear again prompting the selection of a module and also the Linking mode.



The appropriate Linking mode will depend on your data – see [Section 1](#) for more information. When needed, choose the field relative to the link. You can edit this linking mode using the blue icon.



## 3.2. Add filters

On the right part, you can add filters to your query. There are 3 methods of filtering: by value, by module and by Project Code.

Add filter
✕

---

Filtering method

Main filter module

Main filter module field

Type

Value to filter by (max 100 symbols)

By value
By module
By project

Close
Save

With each filtering method always remember to hit **Save**.

### Filter Types

- equals ( = )
- does not equal ( != )
- is greater than ( > )
- is greater or equals ( >= )
- is less than ( < )
- is less or equals ( <= )
- ends with ( % LIKE )
- starts with ( LIKE % )
- contains ( % LIKE % )

Here's an explanation of the last three filter types:

- ends with ( % LIKE ) variable + value: search with variable prefix
- starts with ( LIKE % ) value + variable: search with variable suffix
- contains ( % LIKE % ) variable + value + variable: search with variable prefix and suffix.

### 3.2.1. Filter by value

This filtering method allows you to specify a condition on a field of any of the modules in a query based on the filter type chosen.

Example 1: Filter on Samples where the comment field equals "Blood 123".

Add filter ×

---

Filtering method By value By module By project

Main filter module

Main filter module field

Type

Value to filter by (max 100 symbols)

Example 2: filter on all Samples whose comments field contains the word "blood".

Add filter ×

---

Filtering method By value By module By project

Main filter module

Main filter module field

Type

Value to filter by (max 100 symbols)

**Note:** When filtering on date and time fields use the following formats:

Date = YYYY-MM-DD

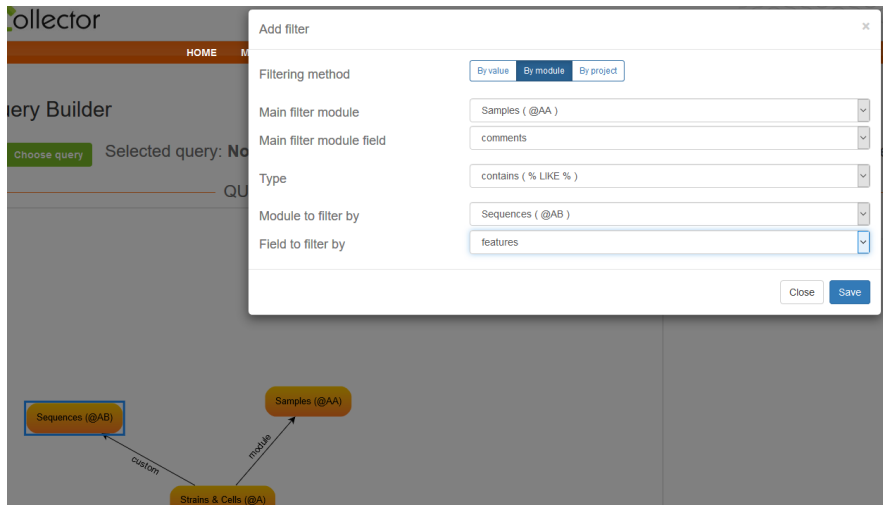
Datetime = YYYY-MM-DD hh:mm:ss

Time = hh:mm:ss



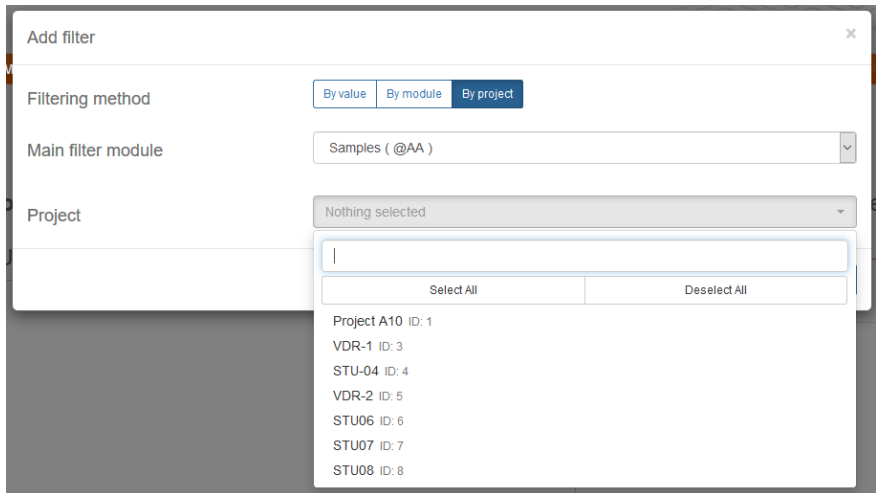
### 3.2.2. Filter by module

This filtering method allows you to search for records with a common value in two modules separate from the field that is the primary link between modules. The example below shows a filter with the condition that the “comments” field of Samples must contain the value in the “features” field in Sequences.



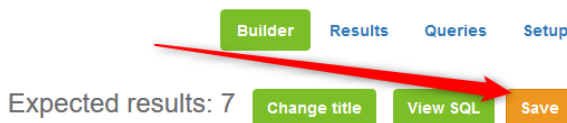
### 3.2.3. Filter by Project code

Choose the module and the project code from the dropdowns and hit **Save**.



### 3.3. Name and save query

Click on **Change Title** to give a name to your query.  
 Always remember to hit **Save** after you create or make changes to a query.



The queries can be selected by navigating to **Choose Query** on the left hand side while on the **Builder** or **Results** tabs.

Choose query ✕

Show  entries

Search:

ID	Title	Expected results	Version	Owner	Time created	Time modified
38	Sample linked to Strains - Custom link	0	8	[Redacted]	07/08/2018 14:26:32	24/08/2018 16:49:31
39	Samples and Strains - Module link	2	9	[Redacted]	07/08/2018 14:28:14	23/08/2018 17:46:25
40	Samples and Strains - Normal link mode	3	1	[Redacted]	07/08/2018 14:29:07	07/08/2018 14:29:07
41	Strains linked to Samples - Normal	3	1	[Redacted]	07/08/2018 14:30:07	07/08/2018 14:30:07
42	Strains linked to Samples - Module name	7	1	[Redacted]	07/08/2018 14:31:03	07/08/2018 14:31:03
43	Samples only	6	3	[Redacted]	07/08/2018 15:09:08	07/08/2018 15:09:43
44	Primers query	0	2	[Redacted]	24/08/2018 16:16:27	24/08/2018 16:42:59
59	Query 1	7	1	[Redacted]	27/08/2018 17:49:44	27/08/2018 17:49:44

Showing 1 to 8 of 8 entries

Previous 1 Next

Close Choose

### 3.4. Control access to query

If you want to share your query with particular users or groups go to the **Queries** tab and click on **Sharing**.



Query Builder

Builder Results **Queries** Setup

#### QUERIES

Query name	Type	Shared with	Actions
Sample linked to Strains - Custom link	Owned	user Mick <span>✕</span>	<span style="background-color: #4CAF50; color: white; padding: 2px 5px;">SHARING</span> <span style="background-color: #F44336; color: white; padding: 2px 5px;">DELETE</span> <span style="background-color: #4CAF50; color: white; padding: 2px 5px;">Remote URL</span>

Share your query with individuals.

SHARE QUERY WITH ×

People

Search:

Jane Smith SHARE

Close

Share your query with groups.

SHARE QUERY WITH ×

Groups

Search:

Group 2 SHARE

Group 1 SHARE

Close

On this tab you can also choose to delete queries. A popup will appear asking you to confirm the deletion.



### Are you sure?

You won't be able to revert this!

DELETE Cancel

## 4. EXECUTING QUERIES

After building, naming and saving your query go to the **Results** tab to view the records that satisfy the conditions of your query. The time taken for the results to appear will depend on the query logic and the size of your database.

Query Builder Builder Results Queries Setup

Choose query **Select fields** Selected query: **Strains linked to Samples - Module name** View SQL Run Save

RESULTS

Show 10 entries CSV Excel Search:

Strains & Cells (@A)			Samples (@AA)		
count (id)	Name	count (id)	Label		
1	HeLa	5	HeLa cisplatin		
1	HeLa	10	Test Derived HeLa		
1	HeLa	11	TestHeLa derived 2		
1	HeLa	18	HeLa cisplatin 10 mins		
10	15/00023/1	20	15/00023/1		
11	15/00023/2	21	15/00023/2		
16	E.coli K12	62	E.coli K12 - sample 1		

Showing 1 to 7 of 7 entries Previous 1 Next

© Query Builder v2.1

By clicking on **Select Fields** you are brought to a page where you can select the fields from the modules in your query (**Relevant Modules**) that you want to see in your results. All selections are specific to the individual user and will not affect other users. Click on **Save** and then **Back** to return to the results page.

Query Builder Builder Results Queries Setup

Back Selected query: **Strains linked to Samples - Module name** Save

SELECTED MODULE FIELDS

Select all Deselect all

RELEVANT MODULES

Samples  Strains & Cells

SECONDARY MODULES

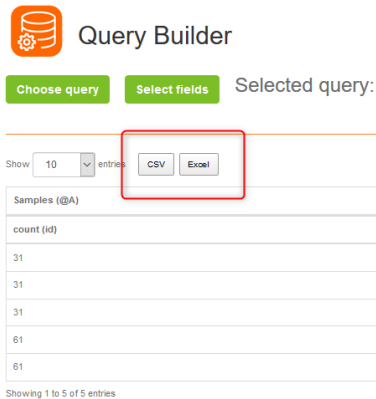
Reagents & Supplies Equipment

<input checked="" type="checkbox"/> Count	<input checked="" type="checkbox"/> Label
<input type="checkbox"/> Comments & Description	<input checked="" type="checkbox"/> Date_created
<input type="checkbox"/> Date_updated	<input checked="" type="checkbox"/> Sample Type
<input type="checkbox"/> Origin	<input checked="" type="checkbox"/> Organism
<input type="checkbox"/> Volume	<input type="checkbox"/> Volume_unit
<input checked="" type="checkbox"/> Optional Unique Code	<input type="checkbox"/> Main Operator

## 5. DATA REPORTS/EXPORTS

Once you've created a query you have 3 ways of exporting the data from the **Query Builder Add-on**.


1. Execute your query following the steps in [Section 4](#) and export the report in CSV or Excel format.



2. Use the **Remote URL** function in the **Queries** tab and copy the resulting URL. This is useful if you want to import your data into an external dashboard software such as Power BI, Qlik, Tableau etc.

Click on **Remote URL** and hit **Refresh**. A URL will be generated which you can view in the subsequent popup. Clicking on Remote URL and hitting **Refresh** again will make the original URL obsolete and give you a fresh URL.






**Remote URL**  
No URL generated. Hit refresh.

Refresh Close


➔



**Refreshed**

http://127.0.0.1/...  
/api/index.php?token=RJS...

OK



**Remote URL**

http://127.0.0.1/...  
/api/index.php?action=runQuery&uid=3&  
token=...

Refresh Close

The **View SQL** function is also useful if you want to import your data into an external dashboard software such as Power BI, Qlik, Tableau, etc. This is available with an additional purchase. The query will be displayed and there is a convenient **Copy to clipboard BI button**. Please contact your sales representative for more information.

View SQL ✕

```
SELECT A.count as 'A.count',
       A.label as 'A.label',
       AA.count as 'AA.count',
       AA.name as 'AA.name'
FROM samples as A
INNER JOIN modules_relation as mr1 ON mr1.module_from = 'SP'
      AND mr1.module_to = 'ST'
      AND mr1.id_from = A.count
INNER JOIN strains as AA ON mr1.id_to = AA.count
```

Copy to clipboard Close

## 6. UPGRADING AND UPDATING

To update or upgrade the **Query Builder Add-on** module, just download it from our website ([www.labcollector.com](http://www.labcollector.com)). Then, unzip the folder and paste files in the following folder:

E.g. on Windows setup:

```
Programs\AgileBio\LabCollector\www\lab\extra_modules\query_builder
```

As a general suggestion, we always recommend making a backup prior to performing an upgrade or update.

If your instance of LabCollector is cloud hosted with AgileBio, contact a sales or support representative to update.





<http://www.labcollector.com>  
[sales@agilebio.com](mailto:sales@agilebio.com)

**AgileBio USA**  
5473 Kearny Villa Road Suite  
255  
San Diego, CA 92123  
USA  
Tel: 347 368 1315  
Fax: (800) 453 9128

<http://www.agilebio.com>

**AgileBio Headquarters**  
75 rue de Lourmel  
75015 Paris  
FRANCE  
Tel: 01 41 79 15 85  
Fax: 01 72 70 40 22