

User Guide for Electronic Lab Notebook (ELN)

Document will be updated as new ELN features are released

Introduction:

In BrightLab™'s Electronic Lab Notebook (ELN), you can easily plan and design experiments and procedures, collaborate across experiments within the lab, share experiments, clone and evolve experiments based on previous activity.

Keep your teams organized with full transparency into experimental results and progress. Maintain your audit trail, from anywhere.

BrightLab™'s ELN module is developed to allow you to create individual projects or nested projects which need to be connected within a hierarchical structure. The option to add ELN pages and subpages at any level within a project hierarchy gives you the ability to organize your content with improved flexibility and customizability.

In BrightLab ELN, you have the ability to structure and organize your research in a way that makes the most sense to you and your team.

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Login to the BrightLab™ platform:

Log into platform.brightlab.com using credentials you created during registration:

Login

E-Mail/Username

name@mail.com

Password

.....

[Forgot password?](#)

[CONTACT US](#)

[Log In](#)

Dashboard Landing Page:

Once you login, you arrive at the BrightLab™ dashboard landing page. The dashboard landing page provides a summary of your lab's recent experiments, inventory materials and requested/ordered products.

Dashboard

My recent Experiment

Experiment Name	Date	Time
Asparaginase Activity Assay	16 Jul 2019	11:04 am
Cell culture protocol	12 Jul 2019	09:59 am
ExpressMag® Transduction System	11 Jul 2019	10:15 pm
Choosing Your Cell Line	11 Jul 2019	10:12 pm
Mission shRNA Lentivirus	11 Jul 2019	10:12 pm

[More...](#)

Requests

Request Overview

Requested	Approved	Ordered
0	0	1

My Request

Requested	Approved	Ordered
0	0	1

Inventory

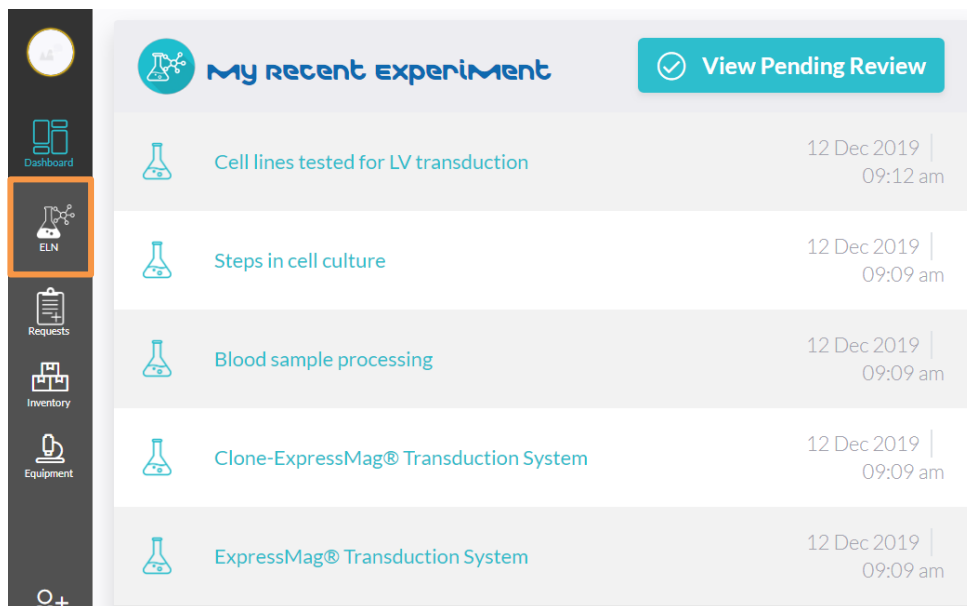
Total Materials

100

order now

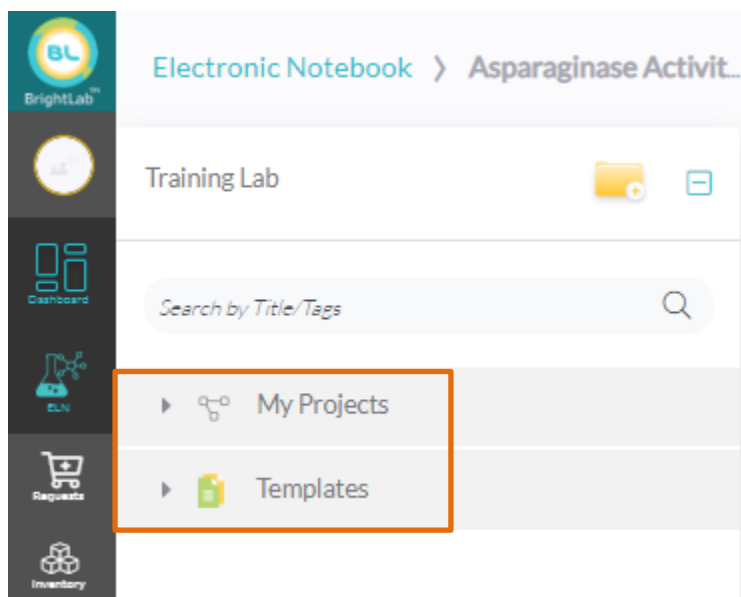
Buy now via BrightLab at your contractual prices with Sign

Click the ELN icon from the dashboard page to go to the **ELN Landing page**. You can also click “My recent experiments” to be directed to the ELN landing page.



ELN Landing Page:

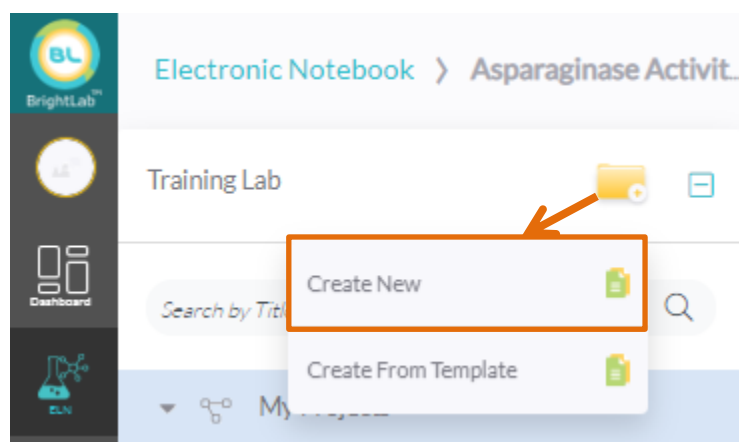
The landing page is where your content including projects and templates will reside. On this page, you will view “**My Projects**” and “**Templates**”. My projects will contain manually created research projects (experiment, protocol or any user defined content) and templates will contain research projects (experiments and protocols) saved as templates.



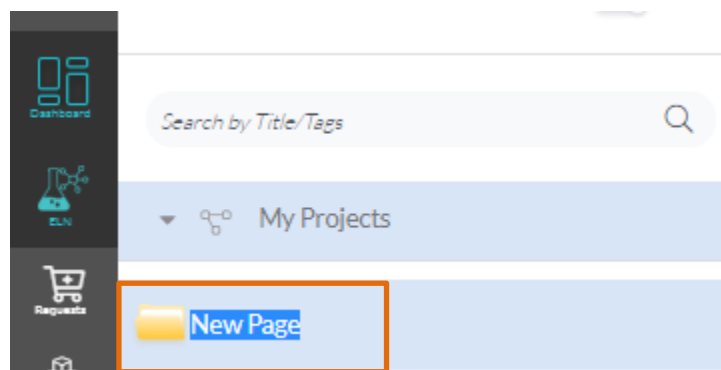
Steps to create a new ELN page:

An ELN page can be an independent experiment or project or can be the child page of a parent project.

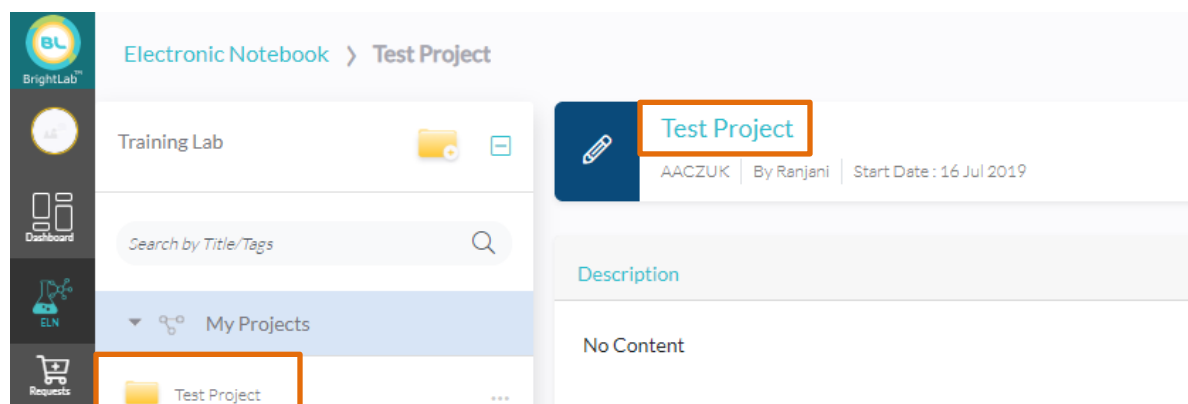
- A. Click the yellow folder icon on the ELN Landing page to create a new ELN page. An ELN page can be used to organize teams, projects, experiments, protocols or any other user-defined content.



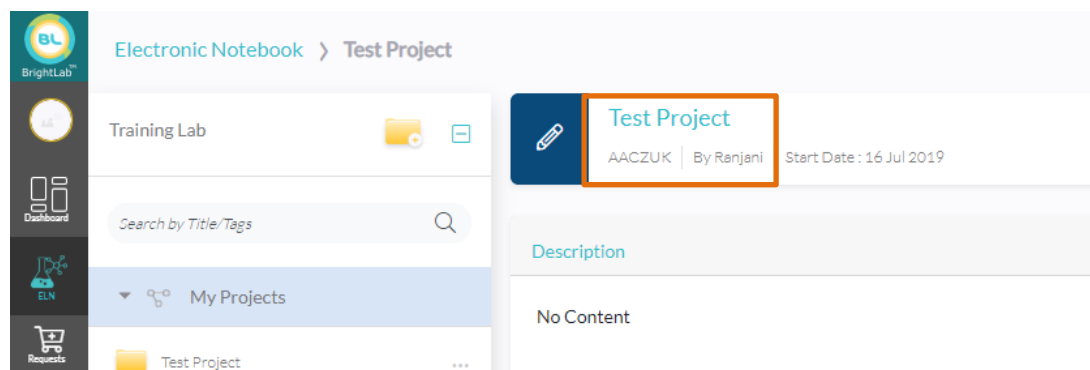
- B. When you select “create new”, a new page icon will appear under “My projects”.



- C. To assign a name/title for the new ELN page, you will need to type the page name and hit enter to save it. Once you hit enter, the assigned name will appear (Test project), as shown in the example below. The name will also appear as the title on the ELN page.



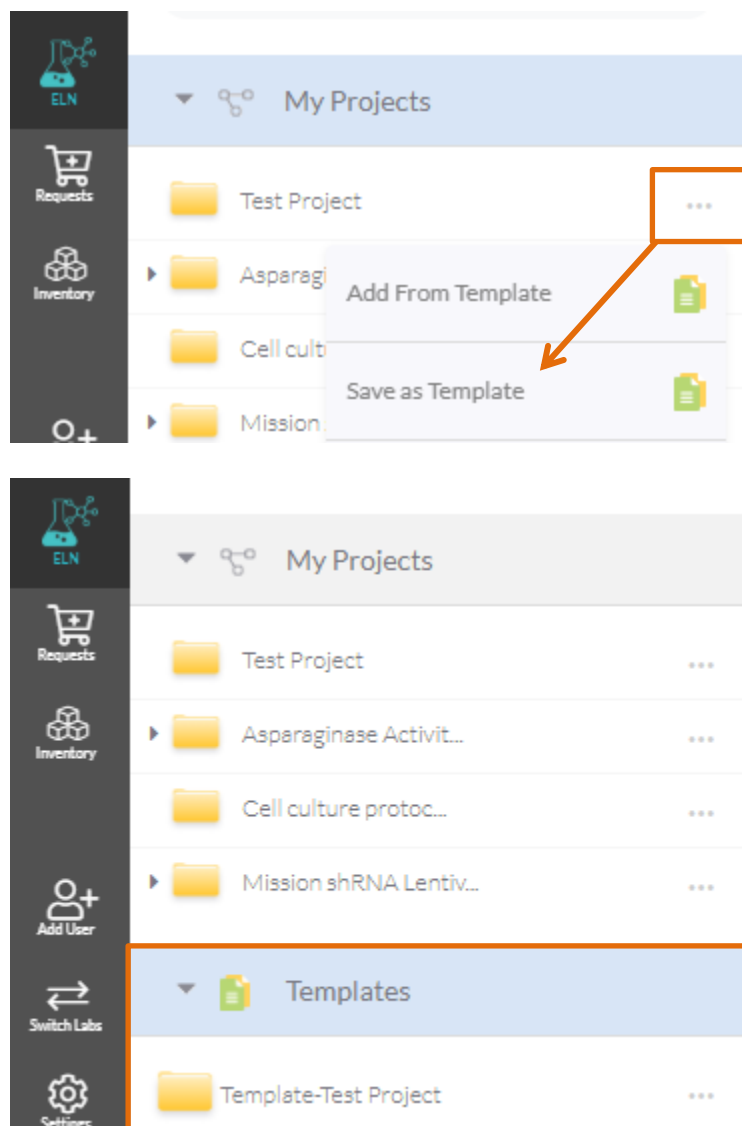
- D. When you click the dark blue pencil icon box, you will be directed to the **ELN detail page** (images shown below)



Steps to save an ELN page as Template:

Template is a replica of a previously created experiment, protocol or project that can be reused. The template contains the “boilerplate” language to assist with protocol development but content may be modified as necessary to meet the scientific aims of the study.

- A. If you want to save a new or existing ELN page as a template, click the ellipsis button (image below) next to the project name, and select the “Save as template” option. This will save the project page as a template, and can be viewed under the “Templates” folder on the ELN landing page.



B. You can also save a project as a template by clicking the ellipsis button to the right of the project title name and select the “Save as Template” option.



ELN Detail Page:

This is where you build and organize content for a project(s). An ELN detail page for a newly created project will appear as shown in the image below. The detail page includes the following:

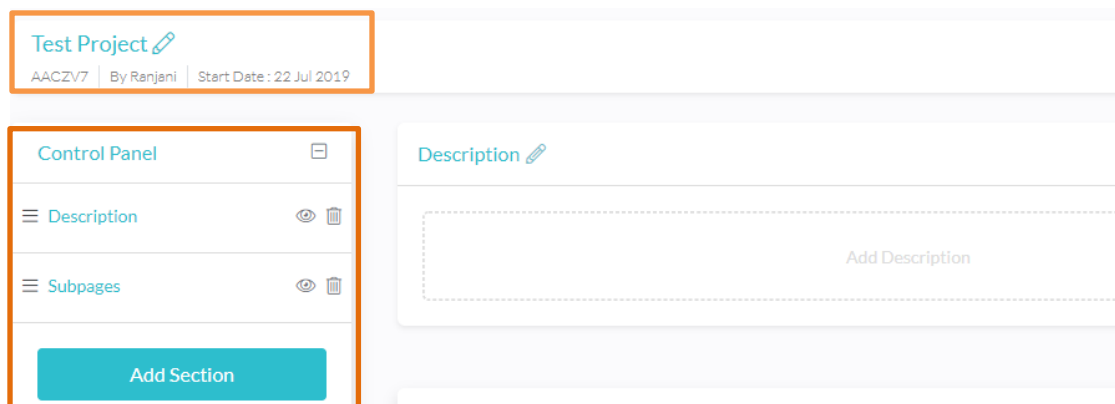
Control Panel:

Highlights all sections created within a project and the corresponding inventory materials used. It serves many purposes which include display of project sections and option to hide sections if you want to work on a specific section. Within the control panel you can also delete, drag and reorder sections. The control panel includes the following sections.

1. **Description** is one of the default sections within an ELN page where you can add description for your project. The first section is created for you so you can start entering content right away.
2. **Add Section(s):** Section is where the content resides within an ELN page. Sections are added to help structure the content into various categories for easy viewing and organization. You can change the name of any section or delete any section you choose to.

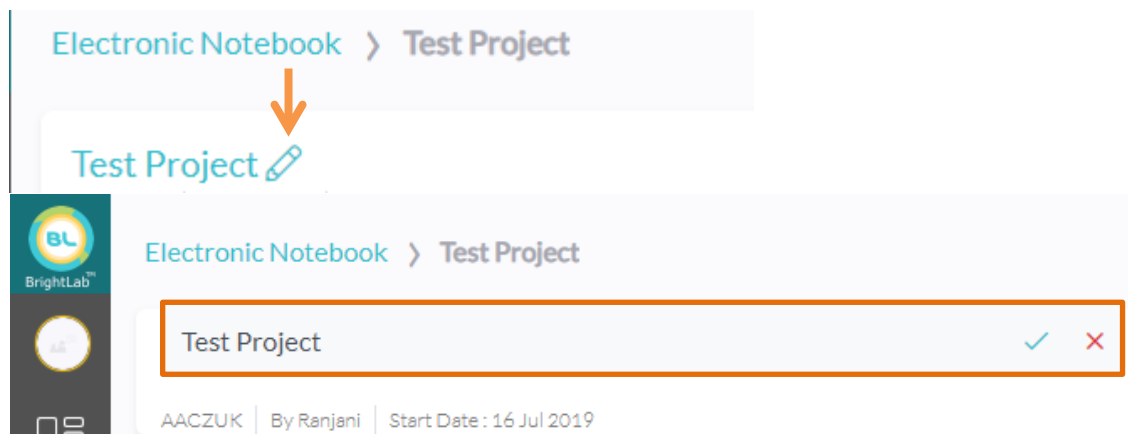
ELN Page Header:

A unique ID is created in the system for every ELN page. It appears under the page name as a six-digit alphanumeric string, followed by the name of the person creating the project and start date. The last modified date appears at the far right of the project name of an ELN page.



Create/modify the title of an ELN page

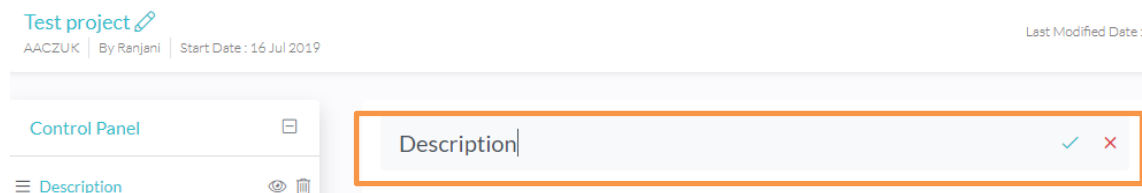
- A. To create/modify the title of an ELN page, click the pencil icon next to the page title. Then, you will need to enter a new title or modify an existing title. **The title has a limit of 150 characters.**



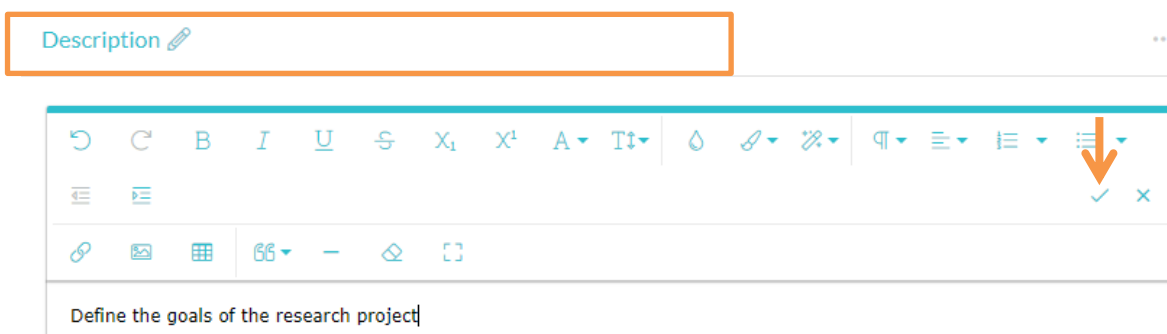
Description section:

This first section is created for you so you can start entering content right away. The title of the section can be changed, or the section can be deleted completely.

- A. To add/modify the title of the description section, click the pencil icon next to Description. Once you are done, click the green check mark. Hit the red X mark to cancel changes.



- B. To add content/details to the description section, click the pencil icon to the far right of the "Description" section name. Type the content and click the check mark to save

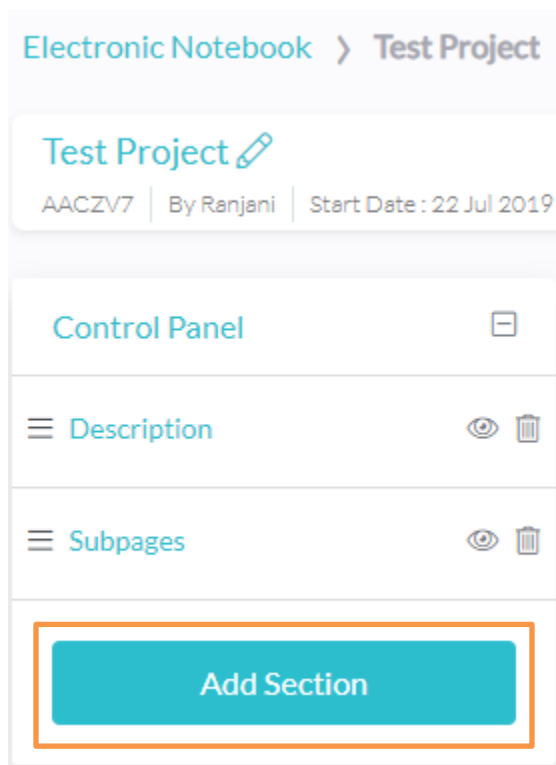


The screenshot shows the top section of the ELN page editor. At the top is a text input field labeled "Description" with a pencil icon, highlighted by an orange border. Below it is a rich text editor toolbar with various icons for undo, redo, bold, italic, underline, link, unlink, text color, background color, bulleted list, numbered list, indent, outdent, and a checkmark icon. An orange arrow points to the checkmark icon. Below the toolbar is a text area containing the text "Define the goals of the research project".

Steps to add section(s) to an ELN page

Section is where the content resides within an ELN page. Sections can be added to help structure and organize the ELN page.

- A. Click the “Add Section” button in the control panel to add a new section to an ELN page.



The screenshot shows the control panel of the ELN page. At the top, it says "Electronic Notebook > Test Project". Below this is a section header "Test Project" with a pencil icon. Underneath the header, it says "AACZV7 | By Ranjani | Start Date : 22 Jul 2019". The control panel contains two items: "Description" and "Subpages", each with a menu icon, a name, and eye and trash icons. At the bottom of the control panel is a large blue button labeled "Add Section", which is highlighted by an orange border.

- B. When you click Add Section, pop-up window appears as shown in the image below. Enter the section name and select the section type. Click the “Add” button to add section.

Text, Image, Files: Write texts or organize attachments in this section, which is locked when the ELN page is marked as completed and signed. Examples: Abstracts, white papers etc.

Comments: Comments and attachments can be added to this section even after the ELN has been marked as completed. Examples: “Reviewer comments” or “Team input”.

Excel365: Upload MS Office Excel file and work conveniently on the online version of your document to save changes within BrightLab.

Add Section

Section Name*

Enter section name

Select Section Type*

☐ Text, Images, Files *i*

☐ Comments *i*

☐ Excel365 *i*

Cancel Add

- C. After you add section, the new section appears on the ELN page as highlighted below. To edit the section title, click the pencil icon to modify the title and click the green check mark to save.

Control Panel

Description

Subpage Materials

Method for test project

Add Section

Define the goals of the research project

Subpage Materials *i*

No data

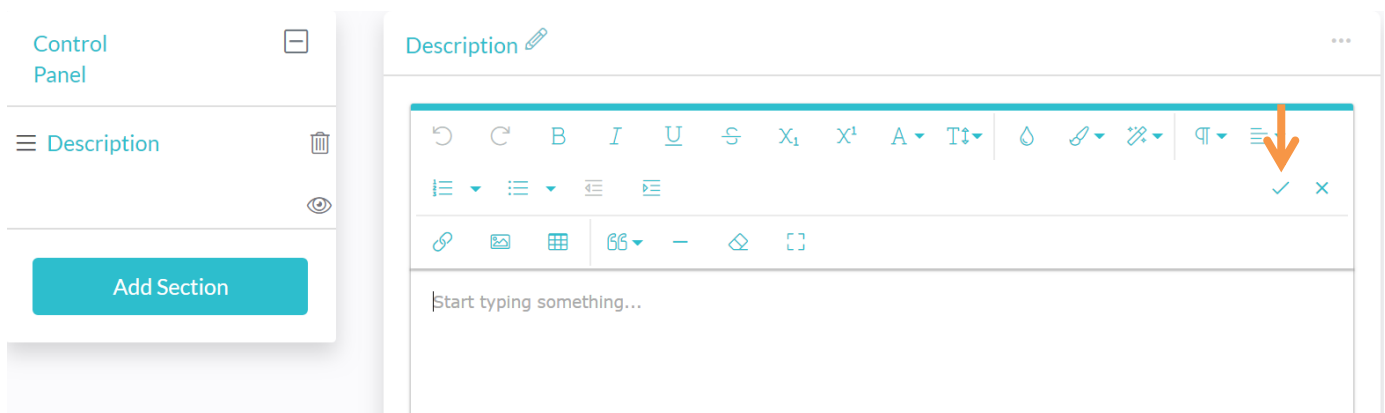
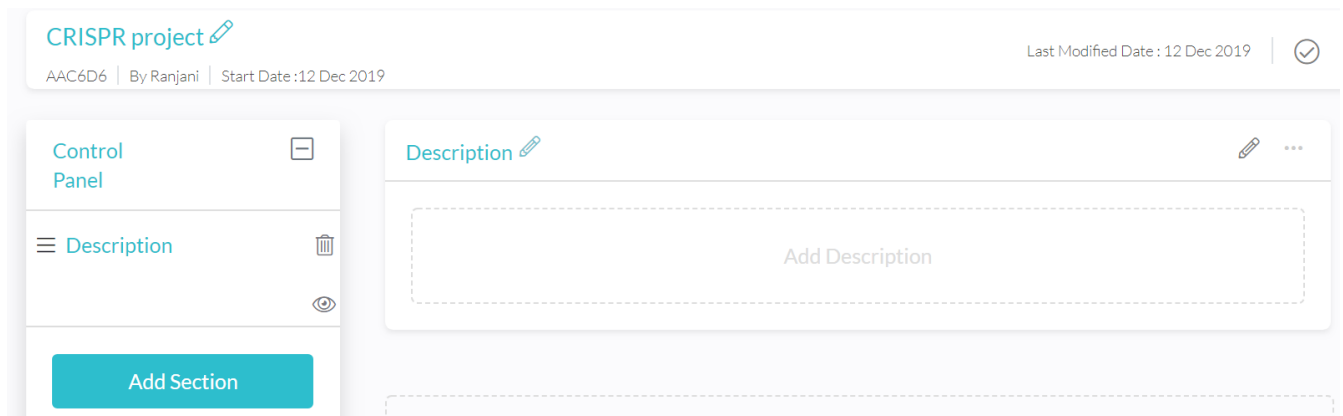
Items per page: 1-5 of 0 items 1 of 0 pages

Method for test project *i*

Add Description

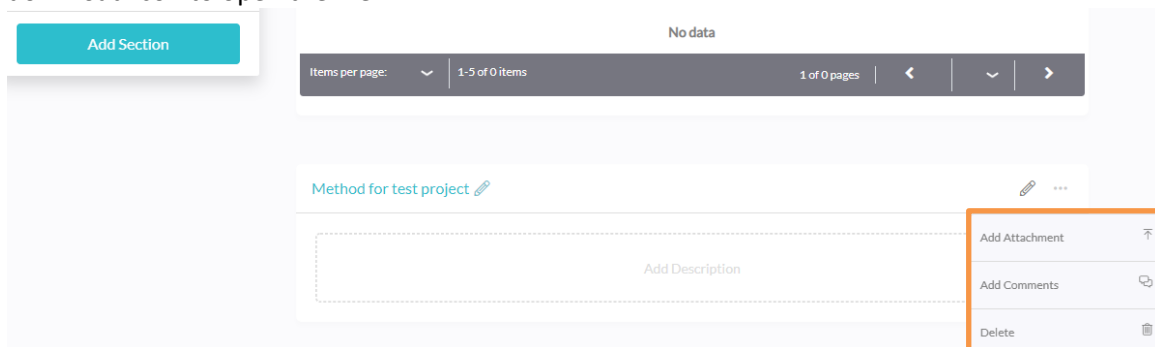
Add Description to a section:

- D. To add description to a section, click the Add Description box or the pencil icon located to the far right to type content. Then, click the green check mark to save or red X mark to cancel.

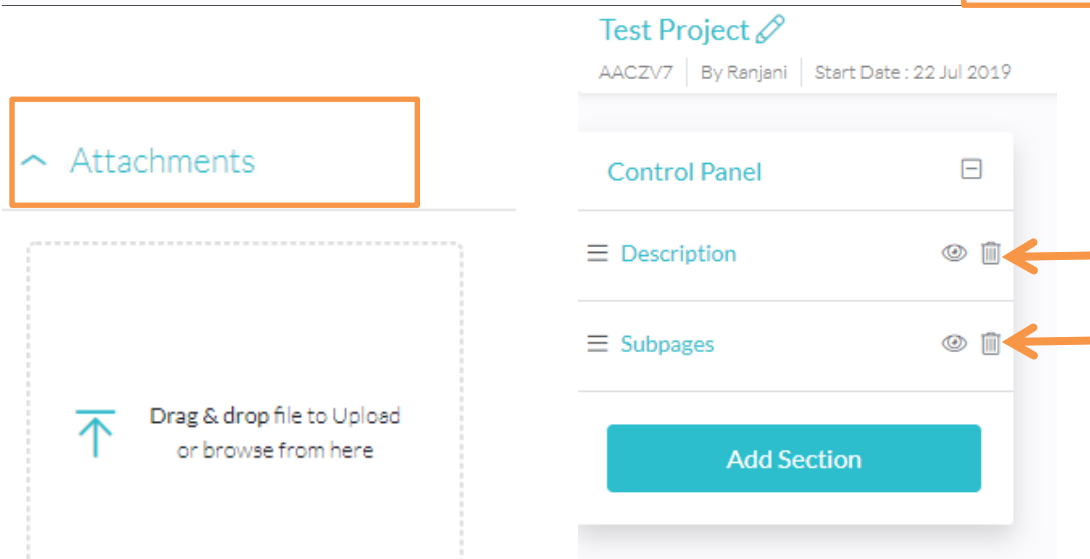


Add comments and attachment to a section, or delete section(s)

- E. Within each section of an ELN page, attachment and comments can be added, or sections can be deleted using the ellipsis button located at the far right, as shown in the image below. You can also delete a section by clicking the delete icon next to the section name, in the control panel (second image below). After attaching a file, click the download icon to open the file.

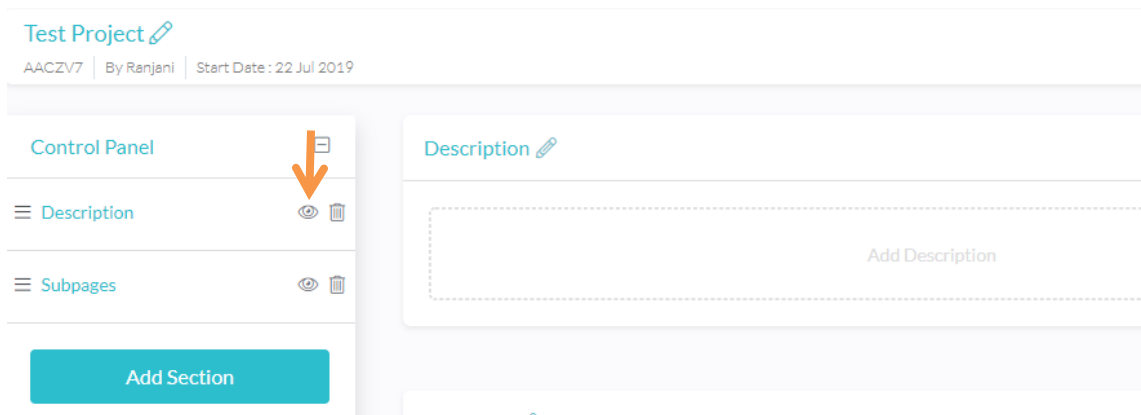


F.



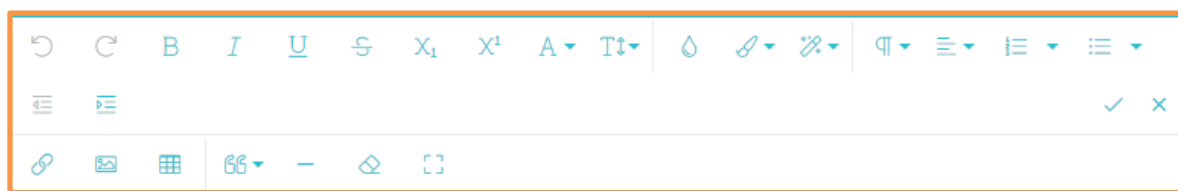
Hide section(s)

- G. In the control panel, click the eye icon next to the section you want to hide. After you are done, the section will not appear in the ELN page. You can re-select the eye icon to unhide. This icon built to help you focus if there is a lot of information on this page.



Editor tool for sections within an ELN page:

- H. Each section is equipped with a tool bar for customization.



Start typing something...

Drag and reorder section(s)

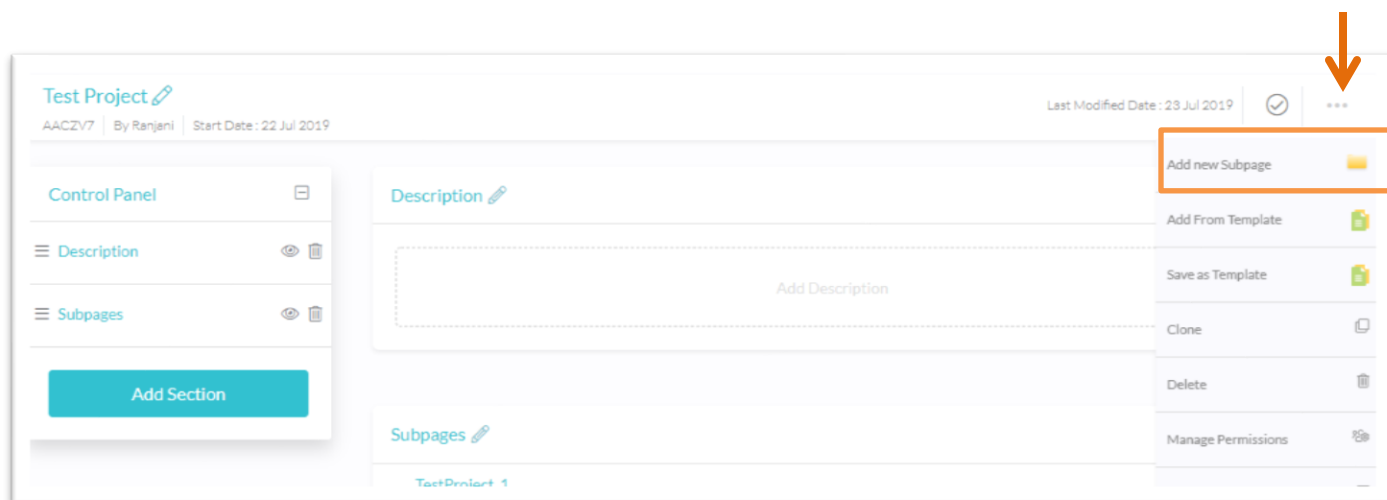
Sections within an ELN page can be dragged and moved to reorder so it makes the most sense for your project. To drag and move sections, select the section you want to move and drag it to the location you want it to reside.

Add subpage(s):

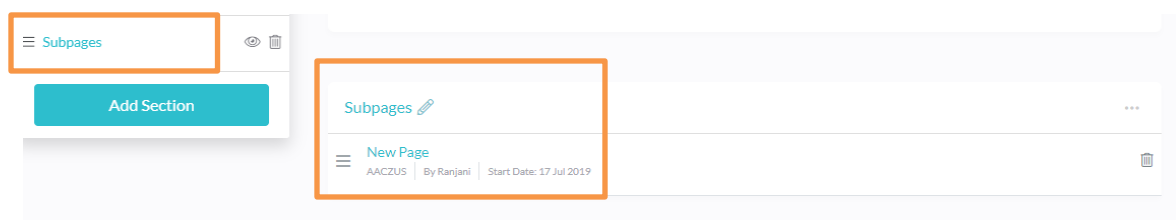
Subpage is created to add new page(s) to an existing ELN project. Subpage serves multiple purposes. It can serve as an independent page or subpage of a project that can be saved as template for other projects, or can simply represent step(s) within a project. Subpage(s) can be added within a subpage when nested projects are created to be connected within a hierarchical structure.

The option to add subpage(s) at any level within a project hierarchy gives you the ability to organize your content with complete flexibility and customizability. **Another unique advantage of creating subpages within nested projects is the ability to “mark a specific subpage(s) within a project as complete” before finishing the entire project. This will allow the page to be e-signed and its content locked. This could be useful in experiments that last several days, weeks or months, where by marking each discreet subpage as a step, as complete, allows for as close to real time tracking and oversight of the experiment as it progresses.**


- A. To add a subpage, click the ellipsis icon on the top right of an ELN page. Select the “Add new Subpage” option.



- B. After you add a subpage, a new page is created on the ELN appears as shown in the image. The added subpage can also be viewed in the control panel.



- C. Click the pencil icon next to the subpage to provide a title. Select the green check mark to save, or the red X mark to cancel.

Subpages 

≡ New Page

Subpages



≡ New Page

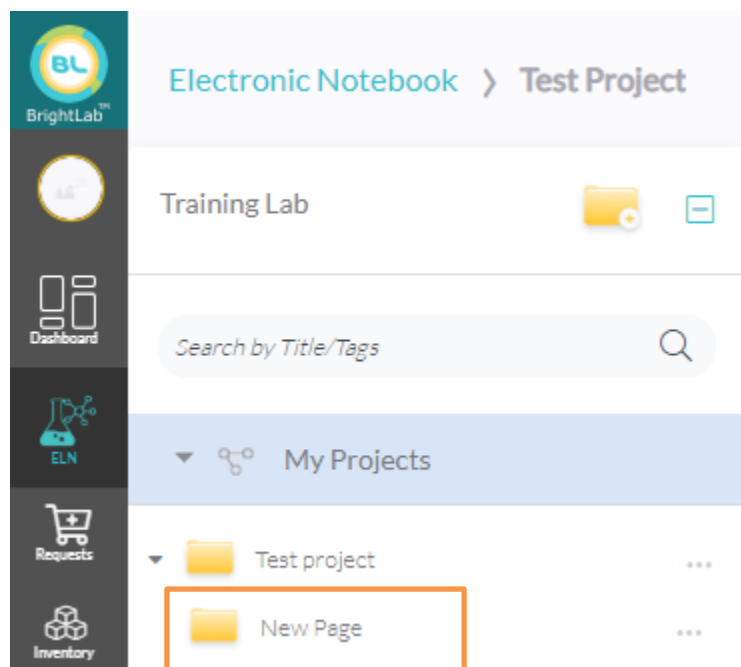
- D. Click the “New Page” to be directed to the new ELN page. In this new page, click the pencil icon to add title. Once you provide a title, hit the green check mark to save.

Electronic Notebook > Test Project > New Page

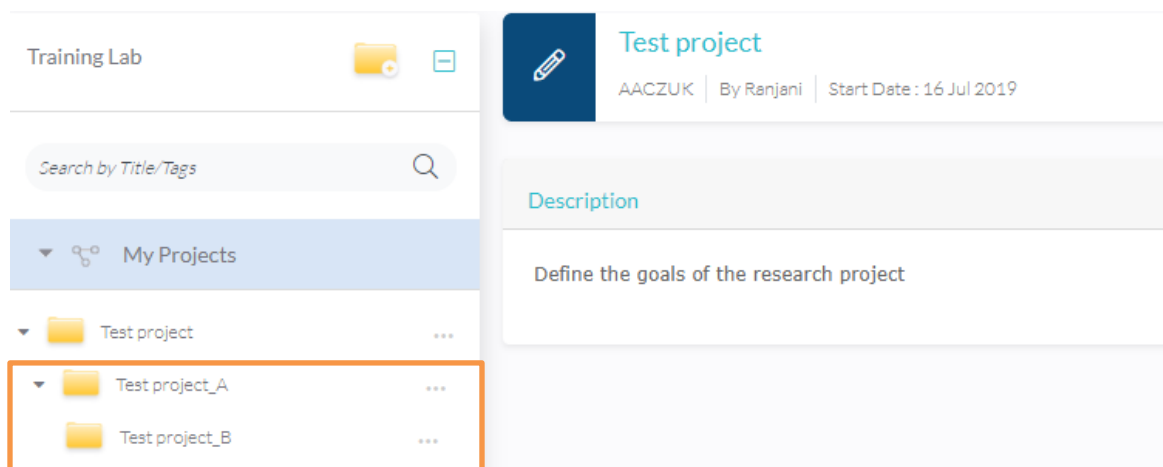
New Page 

AACZUS | By Ranjani | Start Date : 17 Jul 2019

- E. New subpages created within an ELN project can be viewed on the ELN landing page.



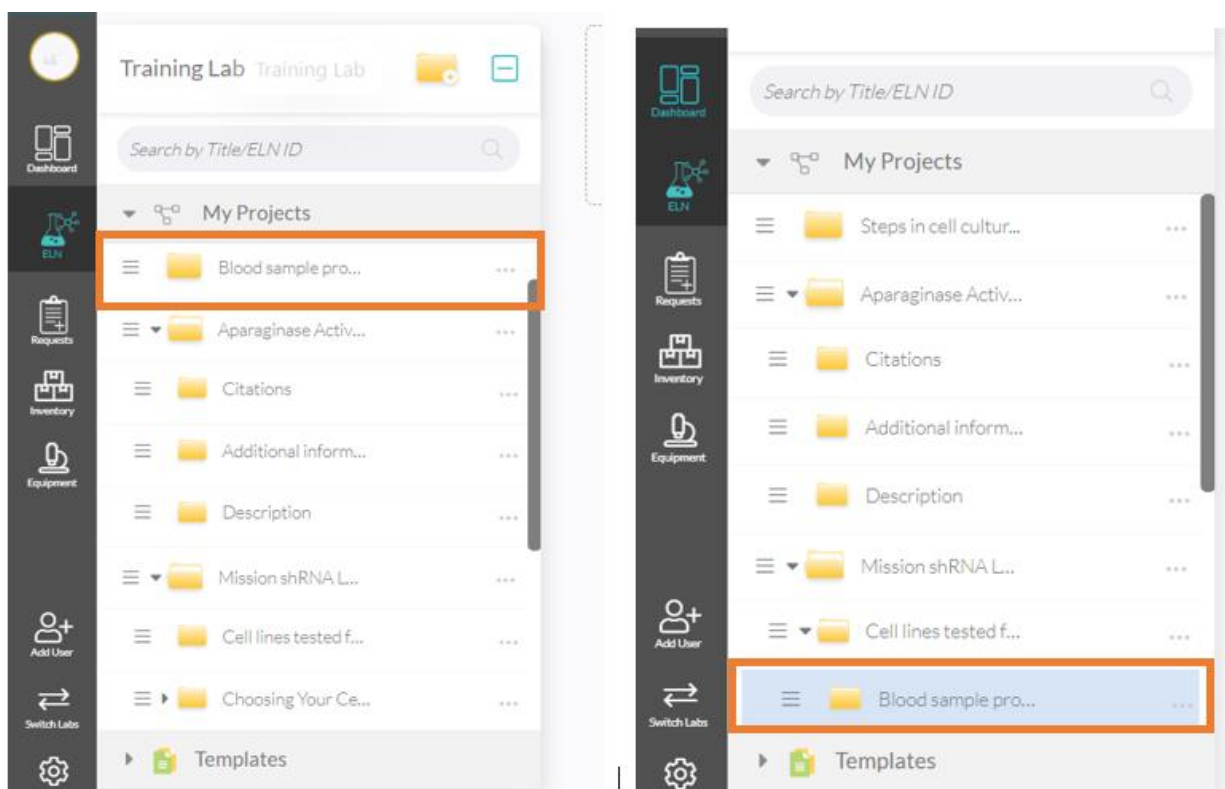
- F. You can add more subpages within a project to create a hierarchical arrangement (image shown below).



Move ELN page(s) with drag & drop

For improved flexibility in the way you structure your projects, we have added a feature which allows you to move ELN pages. ELN pages are movable in the hierarchy, not fixed to the parent they were created under.

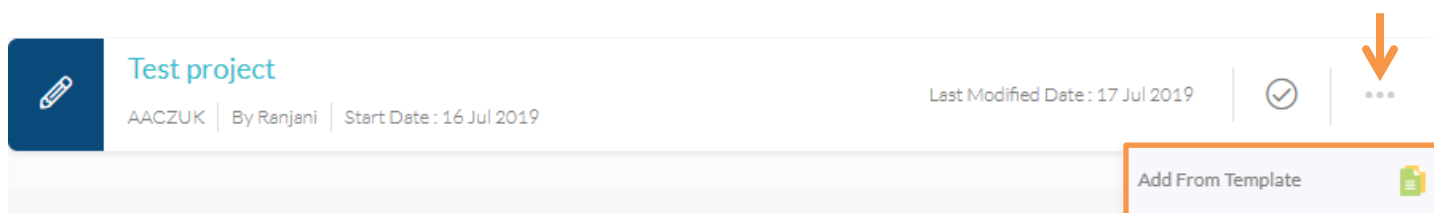
- A moved node inherits its visibility from its parent
- A moved node inherits its permissions from its parent, replacing its pre-existing permissions
- User must have admin permission on both source and target parent nodes to move
- Simply Drag & Drop to move the page



More tool options:

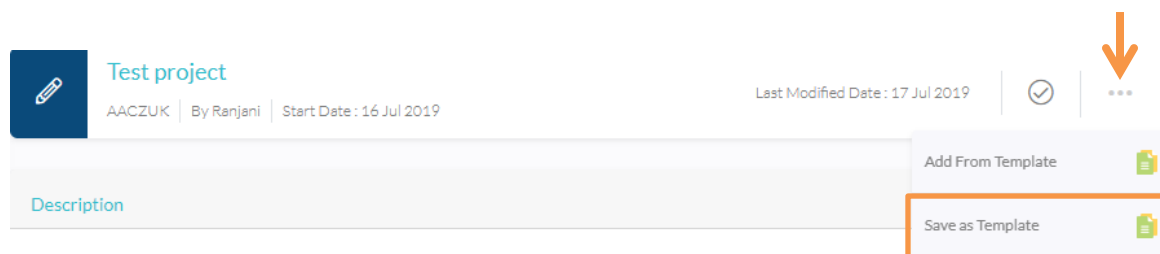
Add from template:

You can add an ELN page that has been saved as a template into an existing project using this option. Click the ellipsis icon to select “Add from template”.



Save as template:

To save a research project as template, select the save as template option. Click the ellipsis icon to select “Save as template”



Clone an ELN page:

To clone an ELN page, click the ellipsis icon and select the “clone” option. The cloned ELN page can be viewed under “My projects” as shown below.

The screenshot displays the BrightLab ELN interface. At the top, a header bar for the 'Clone-ExpressMag® Transduction System' project is visible, showing the user 'AACZUU', 'By Ranjani', and 'Start Date: 18 Jul 2019'. The 'Last Modified Date' is '18 Jul 2019'. An orange arrow points to the ellipsis icon in the top right corner of the header bar. A dropdown menu is open, showing three options: 'Add From Template', 'Save as Template', and 'Clone'. The 'Clone' option is highlighted with an orange border. Below the header bar, the main content area shows the project title 'ExpressMag Delivery—Magnify Your Results' and a description: 'Magnetic beads that further improve lentiviral-based delivery to non-transfectable cells.' Below this, a 'My Projects' sidebar is visible, listing several projects. The 'Clone-ExpressMag®' project is highlighted with an orange border at the bottom of the list.

Clone-ExpressMag® Transduction System

AACZUU | By Ranjani | Start Date: 18 Jul 2019

Last Modified Date: 18 Jul 2019

ExpressMag Delivery—Magnify Your Results

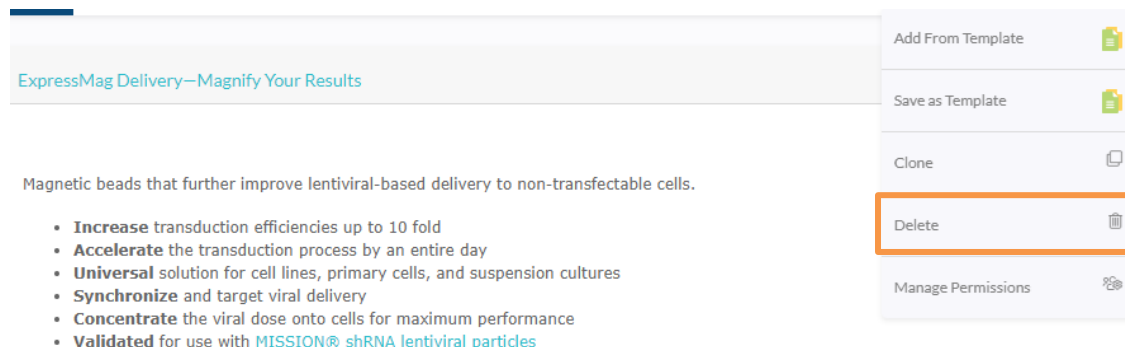
Magnetic beads that further improve lentiviral-based delivery to non-transfectable cells.

My Projects

- Test project
- Asparaginase Activit...
- Citations
- Additional product i...
- Citations
- Additional product i...
- Cell culture protoc...
- Mission shRNA Lentiv...
- Choosing Your Cell L...
- Clone-ExpressMag®

Delete an ELN page:

Click the ellipsis icon on the far right of the ELN page and select the “delete” option to delete a page. For every delete option chosen within ELN, a message will appear to ask if you’d like to confirm deleting the page.



ExpressMag Delivery—Magnify Your Results

Magnetic beads that further improve lentiviral-based delivery to non-transfectable cells.

- **Increase** transduction efficiencies up to 10 fold
- **Accelerate** the transduction process by an entire day
- **Universal** solution for cell lines, primary cells, and suspension cultures
- **Synchronize** and target viral delivery
- **Concentrate** the viral dose onto cells for maximum performance
- **Validated** for use with [MISSION® shRNA lentiviral particles](#)

Dropdown menu options:

- Add From Template
- Save as Template
- Clone
- Delete**
- Manage Permissions

Confirmation



Confirm Delete

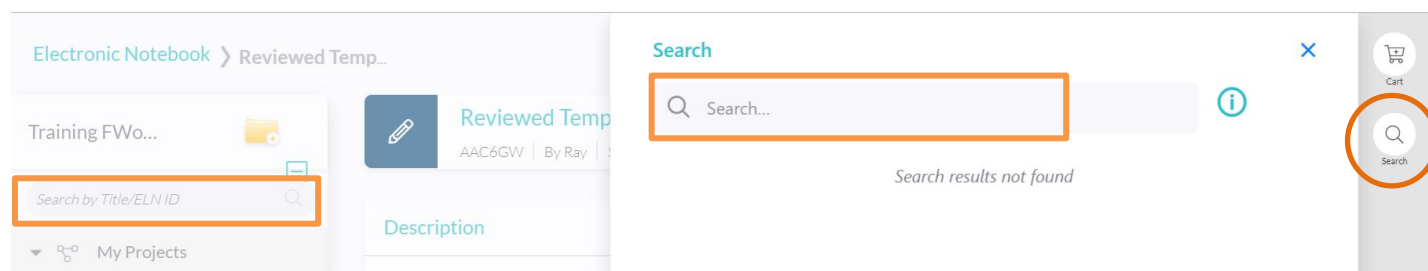
A deleted ELN page can not be retrieved. Are you sure?

Delete

Cancel

Search by Unique ID or title:

The capability to search by title and ID gives you the flexibility to sift through your projects in a quick fashion on the ELN landing page. You can also use the search icon located along the right navigation panel of the ELN page to search by project content or keywords



Manage Permissions:

Permissions in ELN are inherited like sharing a folder in Google drive. Granting access to a page will automatically grant access to all subpages within the page. You can manage permissions and share access with lab members by selecting the “Manage Permission” option from the ellipsis icon. Permissions can be granted as **ADMIN, READ OR WRITE**. Every user added to a lab gets assigned “Read” access by default.

Permission level of a user can be upgraded at the child project level. For e.g. user with Read/Write rights at parent node can be upgraded to Write/Admin rights for a child project within the folder tree. However, permissions can't be decreased from parent node down the tree structure. For e.g. user with Admin rights at parent node inherits Admin rights all through the folder at every child node as well.



Steps to perform cell culture transfection

Adherent cells

1. Remove medium.
2. Wash cells with calcium- and magnesium-free balanced salt solution (phosphate buffered saline, Hanks' balanced salt solution, etc).
3. Add detaching agent (e.g., trypsin). Incubate at 37°C until cells are fully detached from the dish (2–20 min depending on cell line).
4. Resuspend cells in fresh medium, pipette thoroughly to obtain single cell suspension. If your medium does not contain serum, you need to inactivate detaching agents, e.g., by addition of trypsin inhibitors. Measure total number of cells (e.g., by counting cells).
5. Plate cells onto a new dish at the desired cell density.

Add new Subpage



Add From Template



Save as Template



Clone



Delete



Manage Permissions



Page Activity



Manage Permissions



Search Member

Add Member



Add

4 Existing members



<input type="checkbox"/>	Ranjani Muralidharan	ADMIN	
<input type="checkbox"/>	Sophie Daudenarde	ADMIN	
<input type="checkbox"/>	Kunal Rehani	WRITE	
<input type="checkbox"/>	Shweta Bhatt	READ	

Cancel

Save

Submit for Review/ Mark Project as complete:

Marking an ELN page or project as complete is permanent. We offer you the option to mark record as complete directly by the author with single signature or mark as complete following review with double signatures.

Two Signature Workflow - Submit Page for Review and Complete:

With this option, you can submit a page for review (approval or rejection), prior to completion. The first step involves content being reviewed by the reviewer, and the second step involves project completion, if approved or unlocking the page and moving it back to incomplete status, if rejected.

- Select a user to submit for review. This can be a user with any level of permission to this page. Enter your credentials to confirm submission while submitting for review. Project gets locked at this point, but comments to section(s) can be added.
- The user receiving the request can view the content and “Approve” or “Reject”.
- When the project is approved and e-signed, it automatically gets marked as completed.
- If the project is rejected and needs further revision, the submitted project is now unlocked and available for updates and resubmission.

Note: User/Submitter with Admin rights can override the rejection and continue to mark experiment as completed. For additional security this workflow requires a user (who is approving/rejecting) to have at least “read” permission on that project/page so that someone without the right to view it isn’t accidentally given rights by being assigned a reviewer.

Steps in the Two-Signatures Workflow

1. User with “Admin” access initiates “Submit for Review”

The screenshot displays the BrightLab interface for a project titled "Clone-CRISPR/Cas9 editing: mutation detection with mismatch cleavag e assay". The interface includes a sidebar with a "Control Panel" and sections for "CRISPR Assay", "Introduction", and "Protocol". The main content area shows the "CRISPR Assay" section with a text entry field and a "Comments" section. On the right side, there is a "Submit for Review" button (highlighted with a red box) and a "Mark as Complete" button. The top right corner shows the "Last Modified Date : 21 Nov 2019" and a status icon.

2. Search member and continue

Submit for Review

Clone-CRISPR/Cas9 editing: mutation detection with mismatch cleavage assay

AAF26H | By Ranjani | Start Date : 21 Nov 2019

Search member

search by Username

Cancel Continue

3. Submit for approval: Enter login credentials and submit

Submit for Review

i Approving & submitting this ELN page will permanently apply the following to this page and all remaining unsigned subpages, upon countersignature by the reviewer:

- Deduct materials from lab inventory
- Record the date given below as the execution date
- Lock the ELN page from editing EXCEPT Comments & Comment Sections

I have reviewed and understand this Electronic Lab Notebook page and all the subpages contained within.
I understand that my Electronic Signature is equivalent to my handwritten signature.

CRISPR Assay

AAF26C | By Samayamantri Venkata Rama Naga | Start Date : 21 Nov 2019

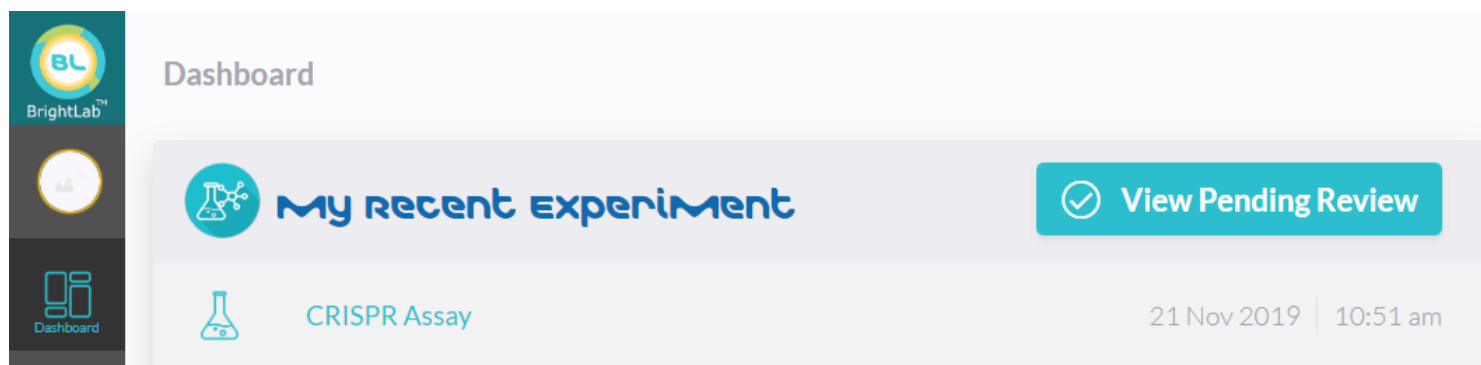
test84 test_user_blab84@mailinator.com

Username* Password*

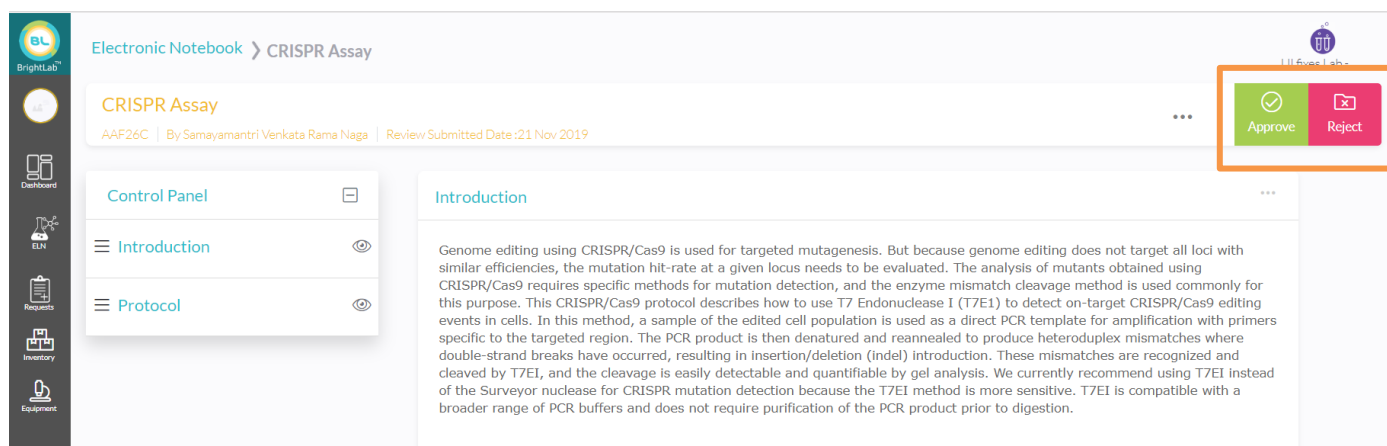
test33

Back Cancel Approve & Submit

4. User receiving “Review request” views pending review on dashboard



5. User gets directed to project page to view content for approval/rejection



6. User can approve project thereby marking it complete

CRISPR Assay

AAF26C | By Samayamantri Venkata Rama Naga | R

Control Panel

Introduction

Protocol

Approve

Reject

CRISPR Assay

AAF26C | By Samayamantri Venkata Rama Naga |

Review Submitted Date: 21 Nov 2019

Username*

Password*

Additional Comments

Cancel

Approve

7. User can provide reason for rejecting project

Electronic Notebook > CRISPR Assay

CRISPR Assay

AAF26C | By Samayamantri Venkata Rama Naga | R

Control Panel

Introduction

Protocol

Approve

Reject

Reject

CRISPR Assay

AAF26C | By Samayamantri Venkata Rama Naga |

Review Submitted Date: 21 Nov 2019

Rejection Reason

Cancel

Reject

Single Signature Workflow – Mark as complete:

Author with ADMIN access can directly mark an ELN record as complete. Completing a project locks the content and creates an e-signature record. The execution date will be auto-populated in the system with current date upon clicking the check mark to initiate the signature process. In addition, browser will not be allowed to auto populate your login credentials (username and password) at the time of e-signing a project. Ensuring that the user who is marking a project as complete is the one to enter their username and password, adds an additional layer of user authentication and protection while submitting a project.

Marking a record as complete is permanent and will accomplish the following tasks:

- Deduct materials from lab inventory
- The execution date of the experiment will be auto-populated and is not editable
- Enter the username and password of the user completing the experiment
- Upon completion, all elements will become non-editable EXCEPT Comments & Comment sections
- Requires electronic signature

Confirmation

Marking this experiment as completed is permanent and will:

- Deduct materials from lab inventory
- Record the date given below as the execution date of the experiment and all remaining unchecked steps-
- Upon completion, all elements will become non-editable EXCEPT Comments & Comment Sections

I have reviewed and understand this Electronic Lab Notebook entry and all the entries contained within.
I understand that my Electronic Signature is equivalent to my handwritten signature.

Steps in cell culture

AAC6DF | By Ranjani | Review Submitted Date : 12 Dec 2019

(today's date)
12 Dec 2019

Username*

Enter username

Password*


Enter Password



Cancel


Complete & Approve


Audit Trail:


Audit trail maintains a recorded history of all changes and updates made within BrightLab ELN. ELN is built to be 21 CFR Part 11 compliant. To view the lab's activity log of an ELN page by click the ellipsis icon and select Page Activity.



Steps in cell culture 

AAC6DF | By Ranjani | Start Date: 25 Nov 2019 Last Modified Date: 12 Dec 2019  


Control Panel 

≡ Steps to perform cell ... 

≡ Subpages 


 


Add Section


Steps to perform cell culture transfection 


Adherent cells


1. Remove medium.
2. Wash cells with calcium- and magnesium-free balanced salt solution (phosphate buffered balanced salt solution, etc).
3. Add detaching agent (e.g., trypsin). Incubate at 37°C until cells are fully detached from min depending on the cell line).
4. Resuspend cells in fresh medium, pipette thoroughly to obtain single cell suspension. If not contain serum, you need to inactivate detaching agents, e.g., by addition of trypsin inhibitor. Measure total number of cells (see: counting cells).
5. Plate cells onto a new dish at the desired cell density.


Add new Subpage 


Add From Template 

Save as Template 

Clone 

Delete 

Manage Permissions 

Page Activity 

BrightLab Support:

If you need assistance or have questions, please contact BrightLab™ support at *brightlabsupport@milliporesigma.com*