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.
# Table of Content

- Login to the BrightLab™ platform: ................................................................. 3
- Dashboard Landing Page: ............................................................................. 3
- ELN Landing Page: ...................................................................................... 4
- Steps to create a new ELN page................................................................... 5
- Steps to save an ELN page as Template:..................................................... 6
- ELN Detail Page: .......................................................................................... 8
- Control Panel: .............................................................................................. 8
- ELN Page Header: ......................................................................................... 8
- Create/modify the title of an ELN page ....................................................... 9
- Description section: .................................................................................... 9
- Steps to add section(s) to an ELN page...................................................... 10
- Add Description to a section: .................................................................... 12
- Add comments and attachment to a section, or delete section(s) .......... 13
- Hide section(s) ........................................................................................... 14
- Editor tool for sections within an ELN page: ........................................... 14
- Drag and reorder section(s) ....................................................................... 14
- Add subpage(s): .......................................................................................... 15
- Move ELN page(s) with drag & drop.......................................................... 18
- More tool options: ....................................................................................... 19
- Add from template: ..................................................................................... 19
- Save as template: ......................................................................................... 19
- Clone an ELN page: ..................................................................................... 20
- Delete an ELN page: .................................................................................... 21
- Search by Unique ID or title: ....................................................................... 22
- Manage Permissions .................................................................................... 22
- Submit for Review/Mark Project as complete: ....................................... 24
- Audit Trail: ................................................................................................... 29
- BrightLab Support ...................................................................................... 30
Login to the BrightLab™ platform:

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

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.
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)

![ELN detail page image]

**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
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.

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.

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.
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.

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.

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.
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.
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.
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 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 and count the cells.
5. Plate cells onto a new dish at the desired cell density.
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”**
2. **Search member and continue**

3. **Submit for approval:** Enter login credentials and submit
4. **User receiving “Review request” views pending review on dashboard**

![Dashboard screenshot](image1.png)

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

![Project page screenshot](image2.png)
6. **User can approve project thereby marking it complete**

![Image of approval screen]

- User can approve project thereby marking it complete.

7. **User can provide reason for rejecting project**

![Image of rejection screen]

- User can provide reason for rejecting project.
**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
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.
**BrightLab Support:**

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