



Akademie věd České republiky

Recommendations for keeping laboratory notebooks from the perspective of intellectual property protection

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The following are general recommendations for maintaining laboratory notebooks so that they serve their purpose effectively. Requirements for different types of research and laboratories are likely to vary, but in all cases a well-maintained notebook provides a reliable tool for the demonstrable recording of research methods and results. It is a valid record that preserves the researcher's, employer's or investigator's rights to the research results and can help protect intellectual property.

Why it is important to keep a formal laboratory notebook

Detailed notes are the only way to keep track of what you've done and how you've done it. In addition, the formal nature of the lab notebook ensures that certain entries are always taken, and that they are taken in the same way. The lab notebook is a confidential document, the contents of which can only be seen by co-workers and supervisors.

Careful maintenance of research records is very useful in proving intellectual property claims. For research whose results may be patentable or involve intellectual property, these records are very useful in filing a patent application and also help you defend against a potential challenge to your patent or invention. Well-crafted research records can prove that you are the first person to come up with an invention.

Types of laboratory notebooks

The handwritten form of the hard-bound notebook is often used because it allows information to be recorded in a simple and permanent way, while the tools needed (notebook and pen) are not dependent on an external power source, are readily available and very easily portable. At the same time, the hardcover allows protection against tampering with the records and thus effective control.

For electronic laboratory notebooks (ELNs), it is recommended to use existing dedicated web-based applications to ensure the security of the records and their efficient maintenance and control. There are many different ELNs that can offer a range of features and can be tailored to specific needs. One example of such a tool is [Labfolder](#), which is used by some research teams of the Max Planck Institutes (about 1500 users out of a total of about 16000 researchers) and is system-integrated into the [Max Planck Digital Library](#). However, its basic version is available to try out at no cost.

Recommendations for keeping a lab notebook

The following text is a general guide on how to keep a laboratory notebook. Its final form and content will always depend on the scientific field and the specific research.

3 basic rules for keeping a written lab notebook

- The pages of the diary must be permanently bound and consecutively numbered.
- The entries in the diary must be legibly made in indelible pen or other permanent marking, with no blank spaces between the text.
- The pages of the logbook must always be signed and dated after the entries by the person or persons carrying out the activity and at least one corroborating witness.

More useful tips for keeping a notebook from an IP protection perspective

- Avoid blotting out errors. Instead, cross out the error with a single line.
- Write so that the text is legible to others. Printing is a good choice.
- Cross out blank white spaces.
- Record all attempts, even those that fail and those that go nowhere. Record all experimental procedures.
- If an error causes a failure, record that too (to avoid claims that the technology doesn't work).
- Also record all new concepts and ideas related to your work.
- It is best not to express your opinions in the journal. It could lead to misinterpretation. The journal should contain factual, quantitative and qualitative results.
- Record success, e.g. "It worked!".
- Record the future hypotheses you will test that you formulated based on your experiment.
- Clearly reference data recorded elsewhere (e.g., a colleague's lab journal, electronic data, etc.).
- Record the samples you use that you have received from elsewhere and make sure you have the right to use these samples.
- Sketches and drawings are also important. In general, enough information should be included to allow someone else with the same expertise to repeat the experiment.
- Any data added later must be on a separate page with a link to the original entry.
- Do not write "it was obvious", "easy" as these could be taken as proof of obviousness.

- Avoid derogatory terms such as "the experiment was worthless" or "the technology is worthless" - this may suggest that you have not fully appreciated the invention.
- Check your records regularly to identify any shortcomings early on.
- Number your journals and keep them in a safe place designated by the lab manager.
- Each laboratory should keep a list of the journals it has produced.

Sources

MIT

<https://web.mit.edu/me-ugoffice/communication/labnotebooks.pdf>

Stanford

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<https://techtransfer.cancer.gov/intellectualproperty/inventions/inventor-guidance/guide-keeping-laboratory-records-dos-dont>

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Gold Biotechnology, Inc.

<https://goldbio.com/articles/article/15-Laboratory-Notebook-Tips-to-Help-with-your-Research-Manuscript>

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https://research.columbia.edu/sites/default/files/content/RCT%20content/ReaDI%20Program/tutorial_LabNotebook_V9.pdf

Imperial College London

<https://www.imperial.ac.uk/research-and-innovation/support-for-staff/scholarly-communication/research-data-management/organising-and-describing-data/elN/>

University College London

<https://www.ucl.ac.uk/wolfson-institute-biomedical-research/laboratory-notebooks>

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<https://www.york.ac.uk/staff/research/external-funding/ip/notes/>

Martina Plisová, Ph.D., Intellectual property basics for researchers: inventions and patents, PDF presentance, 2022