

Guidelines for keeping laboratory notebooks

Laboratory notebooks should be provided to each researcher. Each notebook should have a number and be assigned to an individual researcher, who is the only person who should enter data in the book. Only one project should be entered in each notebook. Pages should not be removed or replaced.

Signing for the book

The researcher should sign and date receipt of the book on the inside cover.

Signing daily entries and witness signatures

- a) Entries should be dated and signed by the researchers on the day the work is conducted.
- b) All entries require witness signatures on a weekly basis (signature to be dated). The witness should understand the work but should not be directly involved in the project so that he/she would not be deemed a co-inventor on any patent(s) arising from the research.

Recording data

- a) Enter all research data directly into the laboratory notebook where possible.
- b) Explain any unusual abbreviations.
- c) Entries should be legible and understandable to a co-worker.
- d) Entries must be in permanent black or blue ink to facilitate legibility, photocopying, etc.
- e) Leave at least a half-inch margin at the inside (bound) edge of each page, to facilitate photocopying. Keep entries inside the printed margins of each page.
- f) Do not erase or use correction fluid. Strike out errors with a single line through the mistake so that it is still legible; enter the corrected word(s) or value(s) above the error, indicating the reason for the correction. Initial and date all corrections.
- g) Any unused pages or portions of pages must be closed out with a diagonal line and dated with the researcher's initials. Do not skip pages with the intention of filling in data at a later date.

Organising data

- a) Only one project may be recorded in each book. Researchers should maintain a current table of contents or running index within the book, including date, experiment number, objective /subject and page number.
- b) When a book is closed out, a cross-reference to the succeeding notebook should be entered (eg; '*Continued to notebook number:...*').

- c) With each new book, the researcher should cross-reference the previous notebook (eg; '*Continued from notebook number:...*').
- d) For each new page, enter the title, project name/number and date.
- e) Only one date should be used per page.
- f) For patent purposes, records of new experiments should always be started on a new page and dated at the onset of each experiment. The purpose/objective of the experiment must be stated clearly.
- g) If the experiment continues over more than one day, each entry must be dated and continuation pages must be clearly annotated. For patent purposes, each page should not contain entries for more than one day.
- h) Only if absolutely necessary should new entries be added to previous pages, when subsequent work of later date is already recorded on succeeding pages. Backdating of these entries is strictly prohibited – the actual date of entry should be used.

Organising ancillary documentation

- a) Where possible, supporting data should be affixed to the notebook.
- b) Attach inserts (folded graphs, raw data tables, or computer printouts) with transparent tape, glue or staples. Care should be taken that the tape does not cover data and that inserts are not affixed in a manner that would hinder photocopying. Sign and date the insert and notebook page (along the seam).
- c) A form of binder, notebook, folder, or envelope must be used for organisation and traceability of ancillary documentation (raw data sheets and other supporting documentation) that cannot feasibly be incorporated into bound notebooks, but are needed as permanent records of specific experiments.
- d) In all cases, ancillary documentation must be cross-referenced to the appropriate notebook number and page and vice versa. Additional information, such as the project name/number, study name, device used to collect data, date of collection, researcher's name, etc, should also be included where relevant.
- e) Specify computer programs (not fully described in the study protocol or method) used to perform calculations on raw data. Source codes are not necessary, but indicate the nature of the calculations.

Records for patent purposes

The importance of keeping careful, accurate records of laboratory work, to prove inventorship and to assist in preparing the patent specifications which, by law, must describe the invention, cannot be over-emphasised. Dependence on memory or scanty notes for this purpose may result in an invalid patent. Any record may serve as evidence to prove inventorship, but the laboratory notebook is the most important.

- a) Describe methods in detail or by reference to an approved protocol, standard operating procedure or method of the date of a previous notebook entry at the beginning of the experiment.

- b) Keep entries factual when reporting an experiment. Note and record unusual or interesting observations during an experiment separately, under a heading of '*Observations*'. Premature or hasty statements such as "an experiment was unsuccessful" should be avoided. If recording an idea to be worked on later, be full in your discussion; use general language, state equivalents, etc.
- c) Keep entries up-to-date. Advance attention to planning the experiment will give a clearer, more intelligible record.
- d) Make the entries complete, so that one skilled in the art would be able to repeat the work. The procedure should be clearly stated in words or by reference.
- e) Record the findings regarding a compound's/cell line/molecule/other reagents etc activity in the notebook at the end of each experiment. The result, clearly set forth, should be supported with analytical data.
- f) Do not describe an invention or name an inventor in the findings.
- g) Enter a conception on a separate page in the notebook, or keep a conception notebook.

Closing out notebooks

Notebooks that are not used for frequent reference should be returned to the supervising senior researcher unless otherwise advised. If a notebook is returned with unmarked pages, write '*Notebook closed; no further entries*', following the last recorded data. Date and sign the page.