Murdoch's lab book

1. Letter from Murdoch to Sergio Moreno 17/01/2001

2. Murdoch's lab book index

3. Murdoch's lab book, description of an experiment

4. Murdoch's lab book, graph of an experiment

These pages were kindly provided by Professor Sergio Moreno.

From Prof.J.M.Mitchison, I.C.A.P.B., Ashworth Laboratories,
West Mains Rd., Edinburgh EH9 3JT, U.K. Tel. 0131-650 5507.
FAX. 0131-650 6564. E-mail *J.M.Mitchison@ed.ac.uk*

17 Jan 01

Dear Sergio,

Here are parts of my experimental notebook, as promised. In the end, I thought it better to send you copies which you would not need to return. In most cases they are as good as the originals except that they don't register that we often used red as well as black ink, for instance to separate multiple curves or points on the same graph. There are 15 pages describing four experiments on nucleoside diphosphokinase in 1988 (in the end never published). The experiments were written up by Jim Creanor but at intervals I made Summaries such as the one on p.3075. This is how I worked with Jim who started with me as a Technician and then spent more than 20 years until he reached the status and pay of a tenured Senior Lecturer. He was very able at the technical level and very careful. I wrote up the papers and for the last ten years or so and I put his name first. I was lucky to have him, as this kind of permanent research post is very rare in our Universities. Obviously it was different with other collaborators. I wrote up papers with Bela but on the basis of finished graphs etc that he had made.

The details of what is in our experiments are fairly straightforward. Among other things they should include strain, medium, temperature and date (including year which is important) and page number which is the main reference. My page numbers go from 1 to 3300 since 1964. Make sure the axes of graphs are labelled.

Some people prefer bound volumes but I find it essential to have a loose-leaf notebook because of the different types of graph paper that have to be inserted. I have used binders that have three rings (paper with three holes, as in these copies) because they hold the sheets much more firmly than the commoner two ring binders. This is standard in the U.S. but can be got in Britain. I also have an American 3-hole paper punch for the graph paper. I don't know what is available in Spain. These 3-hole sheets last well over the years, but the plastic ring reinforcements do not since their rubber adhesive breaks down. If you can still get them, ones with gum like postage stamps are better.

Indexing is very important. At the start of each binder, I have an INDEX sheet with a brief description of c.40 experiments (a copy of one is enclosed). My binders will usually include two of these index sheets. Then I have a much smaller loose-leaf INDEX BOOK with topics and page numbers (a copy enclosed). The topics are in alphabetical order and they are listed in a third index at the start of this book The supplier of this book is printed in light type on the left of the page. I can assure you that all these indices are essential if you are trying to recollect an experiment of ten years earlier!

Yours sincerely

Mardon.

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23 Mar 88 — NOPK in Induced Synchronous Culture of cdc 2-33

(2-33)

100 ml ENN-3 culture growing at 29°C : at 5.45 a.m. culture shifted to 35°C. OD 9.42 = 0.196. Culture shifted back to 29°C at 9.45.

Every 15' throughout the experiment 0.1 ml added to 10 ml saline & counted.

At the same time 1.5 ml sample spun down in a weighed tube, most of the supernatant was removed & the cells resuspended in exactly 200 µL hepes. 4 × 10 µL samples placed in Eppendorf tubes & frozen at -20°C.

ASSAY 1. Two sets removed from deep freeze immediately after the experiment & assayed. 450 µL substrate containing 96 µL 10^{-1} M ATP, 60 µL 10^{-1} M TDP, 294 µL hepes, 23 µL IAA & 3 µL ^{32}P-ATP. 10 µL of this added to each sample & incubated 20' at 30°C. 5 µL spotted then plates washed & run as usual.

ASSAY 2. Two sets assayed the following day : substrate made at twice normal conc' 192 µL 10^{-1} M ATP, 120 µL 10^{-1} M TDP, 130 µL hepes, 23 µL IAA, µL ^{32}P-ATP. 10 µL of this added to each sample & incubated at °C. 5 µL spotted then plates washed & run as usual.

Assay 1 blank 3138 ATP 131172

Time	Cell No.	SAMPLE	Time	cpm - blank	
15'	1.01×10^6	1	15'	21343	15123
30'	0.99	2	30'	17148	14279
45'	1.01	3	45'	17700	16449
1hr	1.03	4	1hr	15162	17603
1.15	1.08	5	1.15	17884	21086
1.30	1.51	6	1.30	11993	12763
1.45	1.64	7	1.45	12492	15109
2hr	1.70	8	2hr	24399	15465
2.15	1.75	9	2.15	21652	16223
2.30	1.75	10	2.30	16320	9743
2.45	2.11	11	2.45	10041	12310
3hr	2.72	12	3hr	23791	14645
3.15	3.21	13	3.15	17379	8247
3.30	3.30	14	3.30	14132	17509
3.45	3.35	15	3.45	13211	17476
4hr	3.53	16	4hr	5688	10912
4.15	3.84	17	4.15	17511	10532
4.30	4.41	18	4.30	21522	18334
4.45	5.09	19	4.45	18812	5576
5hr	5.54	20	5hr	13263	6529

NOPK in Induced Synchronous Culture of cdc 2-33

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