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Proper Labeling of Sample Tubes

Proper labeling of sample tubes is a good lab habit that allows researchers to promptly locate and identify the content of a sample tube. The label on a sample tube is used to guide a researcher or a group of researchers involved on the same project to information regarding the sample in question. This information typically consists of a detailed explanation about the origin and nature of the sample. The exact tube label and specifications about the sample must be written on the project notebook such that the researcher can correctly match the label on the tube with the provided description. By following the labeling guidelines described below, a group of researchers working on the same project can have access to samples at any given time along the project workflow regardless of who obtained the sample.

Labeling DNA samples

What you did	Name on tube cap	What is indicated	Written on side of the tube
You purified from 5 different *E. coli* colonies a pET21a(+) plasmid with hmgb1 cloned in it (hmgb1 is the gene of interest, also called insert). You did the plasmid prep on April 4th, 2010.	pHMGB1 1 4/4/10	Indicates hmgb1 cloned into plasmid "p" was prepped on April 4th, 2010 (you should specify on your book the identity of plasmid "p"). On this date, your book should have an entry mentioning you prepped plasmid pHMGB1 from several different colonies.	Your initials. The concentration of the plasmid.
On April 4th, 2010, you amplified then purified a PCR product. The gene you are working with is hmgb1	HMGB1 pure PCR 4/4/10	Indicates hmgb1 from a PCR experiment I conducted on April 4th, 2010, is in solution and that it is pure. On this date, your book should have an entry describing how you amplified and purified hmgb1.	Your initials. If you can spare product, then determine and write its concentration.
On April 4th, 2010, you digested your hmgb1 PCR product with enzymes HindIII and XbaI.	HMGB1 PCR HindIII/XbaI 4/4/10	Indicates PCR product hmgb1 was digested with enzymes HindIII and XbaI. Your book should have an entry describing how you digested your PCR product on the indicated date.	Your initials.

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What you did	Name on tube cap	What is indicated	Written on side of the tube
On April 4th, 2010, you purified your hmgb1 PCR product digest.	HMGB1 dig HindIII/XbaI pure 4/4/10	Indicates you purified the PCR product you digested with HindIII and XbaI. On the indicated date, your book should have an entry mentioning you purified your hmgb1 PCR product digest.	Your initials.
You digested pHMGB1-1 with enzymes HindIII and XbaI on April 4th, 2010.	pHMGB1-1 HindIII/XbaI 4/4/10	Indicates plasmid pHMGB1, which comes from colony 1, was digested with restriction enzymes HindIII and XbaI on April 4th, 2010. On this date, your book should have an entry describing how you prepared the digestion(s).	Your initials.
On April 4th, 2010, you ligated a digested plasmid and a digested DNA fragment.	Name of plasmid Name of DNA fragment lig 4/4/10 Could go like this: pET21a(+) hmgb1 lig 4/4/10	Indicates you ligated plasmid pET21a(+) with hmgb1 on the mentioned date. On that date, your book should have an entry describing how you set up the ligation reaction.	Your initials.

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Labeling protein fractions

What you did	Name on tube cap	What is indicated	Written on side of the tube
On Sep. 15th, 2010, you prepared cells in SDS loading dye to run a SDS-PAGE for analysis of gene expression	Name of protein product 9/15/10 exp 1	"exp 1" indicates that the gene expression was carried out under condition "1", which should be explained in detail in your lab notebook. There can be as many "numbers" as testing conditions for gene expression. You may have several different tubes, each with the protein product manufactured at different expression conditions.	Your initials. The absorbance value of the cell culture before it was spun down.
On Aug. 24th, 2010, you lysed cells and separated the soluble from the insoluble fraction by transferring the soluble fraction to a new tube.	Name of protein product 8/24/10 Sol con 1	"Sol" and "Insol" mean soluble and insoluble, respectively. "con 1" indicates the lysis conditions employed to obtain the samples. Detailed information describing the lysis conditions should be written in your lab notebook.	Your initials. Information to trace this back to expression conditions.
	Name of protein product 8/24/10 Insol con 1		
You treated sample "insol, con 1" with urea and/or other detergents, and separated the urea soluble fraction from the urea insoluble fraction by transferring the former to a new tube. You did it on Aug. 25th, 2010.	Name of protein product 8/25/10 U-Sol U-con 1	"U-sol" and "U-insol" mean urea-treated soluble and insoluble fraction, respectively. "U-con 1" indicates the conditions employed under the urea treatment. Detailed information describing the protein solubilization treatment with urea should be written in your lab notebook.	Your initials. Information to trace this back to expression conditions.
	Name of protein product 8/25/10 U-Insol U-con 1		

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What you did	Name on tube cap	What is indicated	Written on side of the tube
You initiated the purification of your protein by loading it on a Ni^{2+} IMAC (HisTrap) or any other of our columns (HiTrap Q, Sephacryl S-200 HR, etc). You collected fractions (1…etc.) from your column as proteins were being eluted. This was done on Aug. 25th, 2010.	Name of protein product Ni 8/25/10 1	"Ni" indicates that the sample was eluted from a Ni^{2+} IMAC (HisTrap) and "1" is the fraction number. This number should match the AKTA FPLC elution pattern for the run. This labeling system can be used regardless of the column from which the protein is being eluted.	Your initials.
You continued the purification of your protein by loading it on a Q HiTrap. You collected fractions (1…etc.) from your column as proteins were being eluted. This was done on Aug. 26th, 2010.	Name of protein product Q 8/25/10 1	"Q" indicates that the sample was eluted from a Q HiTrap and "1" is the fraction number. This number should match the AKTA FPLC elution pattern for the run. This labeling system can be used regardless of the column from which the protein is being eluted.	Your initials.