

**Lab Report Outline 7 - β - galactosidase Purification) (30 pts total)
Due Tues May 8 at 4pm.**

Abstract (3)

The abstract should concisely tell you the results of the experiment and why they are important.

For experiment 7 report

A brief outline of the purification protocol.

The total amount of protein and enzyme activity in your initial protein preparation (supernatant after centrifugation of the initial lysate).

The yield in milligrams of protein and specific activity in units per milligram at each stage of the preparation..

Introduction (3)

Background material

Explain the principles of the main steps that you used in your purification.

Experimental Procedures(6)

Sufficient detail should be included so that a trained biochemist (not necessarily a naïve student) can reproduce your results.

Since we did not have a written protocol state your procedure in a clear simple way.

Results (9)

Tables and figures that concisely present your findings

Purification table is the main thing, it should contain:.

The total amount of protein and enzyme activity in your initial protein preparation.

The yield in milligrams of protein and specific activity in units per milligrams at each stage of the preparation.

1. Sonic supernatant
2. Column chromatography peak fractions (all fractions that contain more than 5% of the total enzyme activity)
3. Gel filtration fractions (if you did this)

A picture of the SDS PAGE gel of your column fractions. Indicate your best guess as to the band that represents beta galactosidase.

Include answers to questions asked in the text that are directly answered by your data.

Discussion (6)

Insights into what may have gone wrong, explanations of surprising results, interpretations of significance data.

Suggest a hypothesis (or 2) why the supposed His-tagged Beta-Galactosidase failed to stick to the nickel column at low concentrations of imidazole

Suggest changes to the protocol that might improve the yield or purity of beta galactosidase.

Suggest an experiment(s) to determine if your hypothesis is correct?

References (3)