

## Intro to Biotech lab series for Honors Scholars

At the DNA Learning Center – Pearl Second Floor (entry at 62 Tillary St)

### DNA Fingerprinting

*Thursday, September 25 – 1:00-2:00 PM*

Human DNA is more alike than different, so how do we find the differences? Restriction enzymes are proteins that recognize specific DNA sequences and can be used to determine whether a particular DNA sequence is present. In this lab, DNA from “evidence” and “suspects” will be compared using restriction enzyme digest and agarose gel electrophoresis. DNA analysis will then be combined with crime scene data to draw conclusions about each suspect.

### Glowing Genes

*Thursday, October 16 – 1:00-2:00 PM*

Two genes, for antibiotic resistance and fluorescence, are introduced into the bacterium *E. coli*. Following overnight incubation, transformed bacteria are compared to non-transformed bacteria for their ability to grow in the presence of ampicillin and glow when exposed to ultraviolet light.

### Protein Purification

*Thursday, November 13 – 1:00-2:00 PM*

In this lab, green fluorescent protein (GFP) is isolated from genetically engineered bacterial cells. Using a technique called hydrophobic interaction chromatography (HIC), GFP is separated from cellular proteins through binding with a hydrophobic resin. Upon completion of the lab, tubes of purified GFP fluoresce bright green when exposed to UV light.

#### LOCATIONS

##### BROOKLYN

##### *DNALC NYC at City Tech*

62 Tillary Street  
Brooklyn, NY 11201

Mail:  
300 Jay Street  
Brooklyn, NY 11201  
718-285-0389

##### MANHATTAN

##### *Harlem DNA Lab*

2351 First Ave at 120<sup>th</sup> Street  
East Harlem, NY 10035

516-367-5170

##### LONG ISLAND

##### *Dolan DNA Learning Center*

334 Main Street  
Cold Spring Harbor, NY 11724

Mail:  
1 Bungtown Road  
Cold Spring Harbor, NY 11724

516-367-5170

##### WESTCHESTER

##### *Regeneron DNALC*

1 Rockwood Road  
Sleepy Hollow, NY 10591

914-800-9991

##### NEW JERSEY

##### *DNALC at Passaic County Biotechnology Innovation Center*

45 Reinhardt Road  
Wayne, NJ 07470

516-367-5170

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