

Welcome... to the EDVOTEK® Biotech Institute!

At Edvotek®, we are committed to developing new and exciting resources for the biotechnology classroom. That's why we have developed an exciting series of professional development workshops. These short courses couple theory with active experimentation to help you update your skills and knowledge in various areas of biotechnology. During your time with us, invited scientists will present their work, providing you with a fresh perspective on biotechnology as it is performed in today's laboratories. We will then move to the laboratory to perform scientific techniques commonly used by research scientists. We will work with you to use these cutting-edge topics in your classroom laboratory.

All short-course workshops will be offered in our state-of-the-art facility in Washington, DC. We're conveniently located near the heart of downtown DC, meaning that you'll be within walking distance of many of the District's top attractions. Additionally, our building sits at the intersection of multiple public and private transportation networks, making it easy to explore the DC metro area.

We hope you enjoy teaching and learning with Edvotek!



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Courses at Edvotek's Biotech Institute

Each Edvotek® Biotech Institute course will provide 16-32 professional development hours. Topics covered in our Summer 2014 workshops will include:

Transforming Biotechnology with Edvotek®

Advances in genetic engineering and recombinant DNA technology have allowed us to convert microorganisms (like *Escherichia coli*) into living factories that produce large amounts of insulin. These scientific advances have made diabetes more manageable. Today, genetic engineering and recombinant DNA technology techniques are used in research laboratories all over the world.

In this workshop, you will transform *E. coli* with a genetically engineered plasmid that allows for the expression of very high levels of a recombinant protein – in this case, Green Fluorescent Protein (GFP). GFP will be purified from the cells using chromatography and analyzed using SDS-PAGE.



Teach Biotechnology Using Forensic Science! It's Easy!

Give your student the opportunity to learn about DNA and biotechnology in the exciting context of forensics! Evidence from accidents and crime scenes is collected and analyzed by forensic scientists. Historically, latent fingerprints and blood typing have been used to isolate suspects. Today, forensic scientists use DNA fingerprinting to identify an individual from trace evidence like a single hair!

In this workshop, you will analyze crime scene evidence using a variety of forensic techniques including traditional fingerprinting, DNA fingerprinting and forensic blood typing.



For more information contact us at workshops@edvotek.com.



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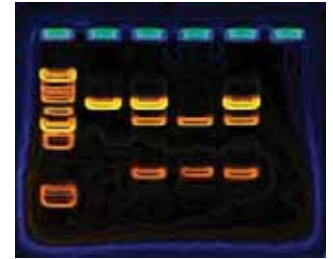
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Create a Unique DNA Portrait!

In humans, DNA is packaged into 23 pairs of chromosomes that are inherited from an individual's biological parents. Although most of this genetic material is identical in every person, small differences, or "polymorphisms", in the DNA sequence occur throughout the genome. Analyzing several different polymorphisms within a person's genome generates a unique DNA "fingerprint".



In this workshop, you will create your own "DNA portrait" using DNA isolated from your cheek cells. The Polymerase Chain Reaction will be used to analyze several different polymorphic regions of your genome. The PCR products will be analyzed using agarose gel electrophoresis. A photograph of your data will be altered to create a unique piece of art!

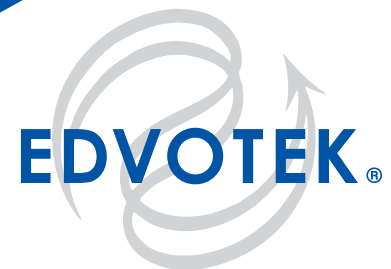
Wait! Were the Chips I Ate Genetically Modified?

Tomatoes, soybeans and corn were among the first genetically modified food products approved by U.S. agencies in the 1990s. Since then, the safety, efficacy and benefits of GM foods have been debated at a global level.

It is difficult to determine which products in your grocery store contain genetically modified ingredients because the U.S. Food and Drug Administration does not require foods to be labeled as such. In this workshop, you will extract DNA from common snack foods like Fritos™ and Soy Chips. Using the Polymerase Chain Reaction (PCR) and agarose gel electrophoresis, we will determine which snacks contain genetically modified ingredients.



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Transform your classroom...

into a state-of-the-art research lab using
the latest molecular biology equipment!



M12 Electrophoresis Apparatus

For 2 Lab Groups
Cat. #502 \$199



TetraSource™ 300

30-300 V for 1 to 4 units
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MV10 Vertical Protein Electrophoresis Apparatus

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