

FOTODYNE Workshop:

General Description:

Exploring Bioluminescence: Introduction to Molecular Biology Techniques

The biological production of light, or bioluminescence, has fascinated humans for thousands of years. This intensive 2-day hands-on workshop uses bioluminescent bacteria to give you a working knowledge of molecular biology laboratory techniques and will help you bring these techniques into your classroom.

Hands-on Techniques: (Teams of 2-3)

Participants will work in groups of 2-3 for most activities. Methodologies included in the workshop include the following:

- Isolation of Bioluminescent Bacteria from Natural Sources
 - Restriction Enzyme Digestion of Plasmid DNA
 - Ligation of DNA
 - Transformation of *E. coli*
 - Preparation of Agarose Gels
 - Agarose Gel Electrophoresis of Plasmid DNA Samples
 - Ethidium Bromide and Methylene Blue Staining of Gels
 - Photodocumentation of Results
-



Materials Provided:

Participants will be given a package which contains a basic Introduction to Molecular Biology, Reference List, Laboratory Protocols, and an Instructor's Handbook. Each participant will also take home an actual stained gel or Polaroid photograph of a gel.

GUIDELINES FOR FOTODYNE WORKSHOPS IN MOLECULAR BIOLOGY

1. For 1-day or 2-day workshops.
2. The workshop is conducted by professional personnel from FOTODYNE Incorporated. A local person is required to coordinate the use of your laboratory facilities. The addendum lists the equipment, materials, and supplies that will be brought to the workshop and the equipment required at your facility.
3. To cover our costs the following flat rates are normally applied to workshops given in the midwestern states of WI, IL, IA, IN, MI, MN and OH (add \$500 to each fee for workshops given outside of these midwestern states). Special arrangements can be made for workshops outside of the continental United States.

2-Day Workshop - \$2500

4. The number of participants is determined by the availability of laboratory space at your institution. A minimum of 15 participants is required for all Workshops. A maximum of 24 students can be accommodated in a laboratory which has three benches. If the registration is large enough, two consecutive Workshops can be delivered for a total of 48 registrants. The financial arrangements for consecutive workshops will be negotiated.
5. The Workshop sponsor is responsible for promoting the Workshop, and for recruiting participants. It is our experience that to ensure an enrollment of 24 persons, at least 600 brochures should be mailed. For an additional fee, FOTODYNE will supply promotional material for the Molecular Biology Workshop (see attached announcement). We can print and distribute the announcement using mailing labels that you provide. We can also provide additional names from our mailing list.
6. FOTODYNE will also deliver workshops on a registrant fee basis. In this case, each person attending the workshop pays a fee of \$150, rather than the sponsor paying the lump sum listed in item 3 of these guidelines. For a registrant fee workshop we would require an active person (host) to coordinate the workshop site, and to assist us in developing a mailing list for the area which FOTODYNE would supplement. We would require 20 participants to present such a workshop.
7. At the workshop each registrant is given a folder containing:
 - a. Laboratory Procedures
 - b. A detailed Instructor's Handbook
 - c. A FOTODYNE Educational Products Division catalog
 - d. A Participant Questionnaire
8. At the conclusion of the workshop each participant is given the following:
 - a. A certificate certifying their participation in our Molecular Biology Workshop.
 - b. An Educational Assistance Grant coupon which entitles them to a 10% discount on any order of \$500 or more from FOTODYNE's Educational Products Division catalog.
9. To encourage enrollment, FOTODYNE has established the following incentive program for the Workshop sponsor:

18 - 20 educators

Sponsor receives a \$250 certificate for Equipment and Supplies ordered from the Educational Products Division catalog.

21 - 24 educators

Sponsor receives a \$500 certificate for FOTODYNE Equipment and Supplies ordered from the Educational Products Division catalog.

FOTODYNE Workshop: Addendum I

MATERIALS TO BE BROUGHT TO THE WORKSHOP

Electrophoresis

- 1 FOTO/Force® 250 Power Supply
- 2 FOTO/Force® 120 Power Supplies
- 2 FOTO/Force® 150 Power Supplies
- 2 FOTO/Force® PowerCube
- 7 FOTO/Phoresis® Single Cell Assemblies (each with 1 tray & 1 comb)
- 1 Dual Electrophoresis Cell Assembly (with 2 trays & 2 combs)
- 24 FOTO/Phoresis® Gel Trays
- 24 12-place Gel Combs
- 4 6-place Gel Combs
- 24 large screw-capped tubes containing 0.24g agarose + 30 ml TBE (in a rack)
- 1 Gel Pan, 8x10

Visualization/Photodocumentation

- 1 FOTO/Phoresis® UV Transilluminator with power cord
- 1 Educational White Light Transilluminator
- 1 FCR-10 Camera
- 1 FOTO/Phoresis® Hood
- 1 Coomassie/Methylene Blue Glass Filter (yellow)
- 1 Ethidium Bromide Glass Filter (red)
- 1 MiniVisonary™ with filters and thermal paper

Molecular Biology

- 16 1-20µl Labpette™ Adjustable Micropipetters
- 6 20-200 µl Labpette™ Adjustable Micropipetters
- 1 100-1000 µl Labpette™ Adjustable Micropipetters
- 3 Educational Microcentrifuge
- 12 Microfuge Tube Racks filled with tubes, bagged in groups of 3

General

- | | | | |
|----|-----------------------------|----|--|
| 1 | Incubator with Thermometer | 2 | Funnels |
| 2 | Block Heaters (with Blocks) | 19 | Sharpie Marking Pens |
| 3 | Vortex Mixers | 18 | 6" Rulers |
| 2 | Hot Plate | 1 | Timer |
| 2 | Hot Plate/Stirrers | 1 | Matches |
| 15 | Alcohol Burners | 3 | Power Strips |
| 1 | Insulated Ice Bucket | 1 | Extra Power Cord |
| 18 | Mini Ice Buckets | 1 | Extension Cord |
| 16 | Glass Plate Spreaders | 15 | Team Signs (including Instructors Station) & Name Tags |
| 1 | pair Hot Gloves | | |
| 6 | 1-liter Glass Beakers | | |
| 12 | 250ml Glass Beakers | 27 | Safety Glasses |
| 4 | Thermometers | 1 | Ice Crusher |