



GeneChip[®] Microarrays

Activity #1 – Reading of News Paper Articles on GeneChip Microarrays and Group Discussion

Introduction:

In this introductory activity you will be split up into small groups. Each student will read a recent article about the use of microarrays from different newspapers around the United States and then report out to the group about the article. Students not reporting out will write down a few key points they learned about each article. Discussion time within the group will be given as each student gives their opinion on what they learned from the article and others give their thoughts as well. Afterwards a short introduction to DNA microarrays will be given by the teacher.

Goals of Activity:

The goals of this activity are:

- #1 - To introduce the concept of a GeneChip microarray and examine some of its applications.
- #2 – To illustrate the wide variety of microarray applications
- #3 – To get you used to sharing and communicating your ideas within a small group
- #4 - To connect to you prior knowledge of DNA science and technology

Procedure:

- (1) The teacher will put you into small groups of 4-5 and assign you a particular article read about how gene chips have already been used

- (2) Read your article, taking brief notes to yourself to help you when you present to your group & take down at least 5 main points about your article (on the provided student handout)
- (3) When everyone is finished in your group, choose one student to begin
- (4) Going around the group, each student should give a brief synopsis of the article, how the microarray was used in the research or to work out some problem, and any comments or opinions they have on the topic of the article (ex: Do you see this as a useful technology? In what ways does the technology interest you? Does this technology worry you?).
- (5) Each student presentation should take about 3 to 4 minutes
- (6) During each presentation, the other students in the group must write down at least 5 main points about the article that they learned from the presenter.
- (7) On your own, answer the questions at the end of the handout
- (8) You will all then take place in a brief discussion and introduction to microarrays lead by your teacher

Article for Activity:

You may use the links below to access the articles or, alternatively, you may use the downloadable, printable versions.

Article #1 – “Power tools for the gene age: New test can help doctors in prescribing medications” San Francisco Chronicle.com 2/7/05

<http://sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2005/02/07/BUGHCB5T3O1.DTL&type=business>

Article #2 – “Scientists Learn in Greater Detail How HIV Kills Immune Cells” Scientific America 6/13/01

http://www.sciam.com/print_version.cfm?articleID=000B6E8C-F518-1C5E-B882809EC588ED9F

Article #3 – “New Obesity Study Checks Genetic Link” MercuryNews.com 6/8/04

<http://www.mercurynews.com/mld/mercurynews/living/health/8867451.htm?1c>

Article #4 – “Iowa State University researcher returns from Brazil with genetic material to study Asian soybean rust” SeedQuest.com 7/8/05

<http://www.seedquest.com/News/releases/2005/july/12746.htm>

Article #5 – “Ohio State Creates First Equine Gene Chip” OSU “onCampus” 1/8/04

<http://oncampus.osu.edu/v33n11/discoveries.html>