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Unit 8 - Week 7

Course outline

How to access the portal ?

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

- Lecture 32 - Application of cell free expression protein microarrays in immunological studies
- Lecture 33 - Basics of microarray image scanning
- Lecture 34 - Software for Image scanning and data processing
- Lecture 35 - Microarray Data Analysis:

Week 7 Assignment 7

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2018-10-17, 23:59 IST.**

1) **Condition 1.** Akshat wants to compare three clinical conditions viz. Severe malaria, non-severe malaria and healthy individuals. By using protein microarrays, answer the following questions (**Questions 1 to 5**). **1 point**

Which approach should Akshat use to find the best panel of biomarkers using microarray data?

- Bootstrap method
- Loop design method
- Reference design method
- None of the above can be used

No, the answer is incorrect.

Score: 0

Accepted Answers:

Bootstrap method

2) Akshat bought a slide but after processing the slides he observed lots of deformities. However, due to the sample and financial constrains he could not buy another slide for re-running the sample and processing it again. Which hardware will be suitable for Akshat so that his experiment is not suffered? **1 point**

- Non-confocal design
- Inverted chemistry
- None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Inverted chemistry

3) Akshat Scans the slide and finds saturated spots as shown below. What GenePix pro software settings can be altered to get a better result? **1 point**

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A project of

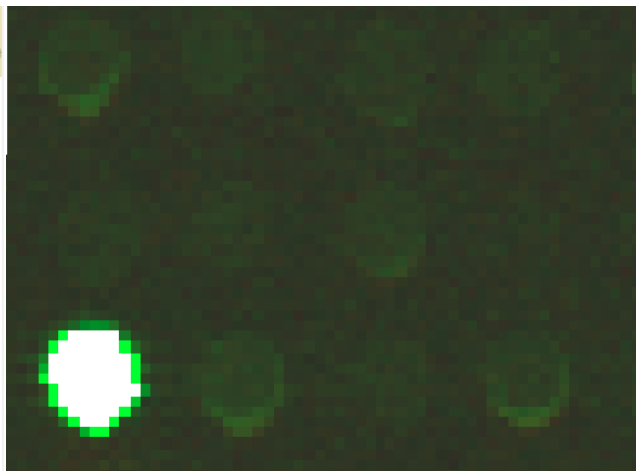


In association with



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- Quiz : Week 7
Assignment 7
- Week 7
Assignment 7
Solutions

Week 8

- Wavelength
- PMT gain
- Exposure time

No, the answer is incorrect.

Score: 0

Accepted Answers:

PMT gain

4) While analyzing the 9 signal lines, he calculated the SNR. Upto what value can he improve **1 point** the detection limit?

- Upto 3x
- Upto 81x
- Upto 9x
- None of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

Upto 3x

5) Which of the following scan modes would you use if you wish to extract data from a **1 point** selected region at a selected resolution and selected wavelength with selected lines to average?

- Preview scan
- Data scan
- Single wavelength scan
- Such scanning cannot be performed

No, the answer is incorrect.

Score: 0

Accepted Answers:

Data scan

6) As per the thumb rule for spot signal detection if the size of dot is 3 micron then what **1 point** should be the resolution?

- 30 micron
- 0.3 micron
- 3 micron

300 micron

No, the answer is incorrect.

Score: 0

Accepted Answers:

30 micron

7) While selecting a PMT through an intensity histogram (Real time pixel intensity vs normalized pixel count) ideally, the histogram for both channels should be

1 point

- Scattered
- Overlapped
- Opposite in phase
- None of the above

No, the answer is incorrect.

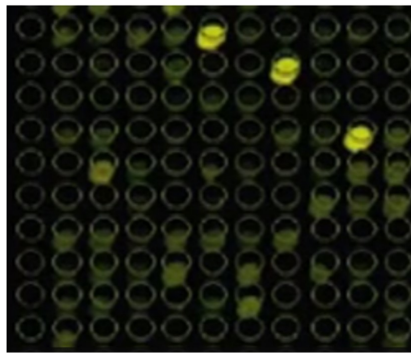
Score: 0

Accepted Answers:

Overlapped

8) Amit scanned the microarray chip and used GAL file to spot all the features but he didn't align the coordinates properly on the feature spots. What will be the effect of this on the results?

1 point



- Spot intensity will get effected
- Spots can be wrongly annotated
- Background will have wrong values
- All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

All of the above

9) To check the quality of the scan in real time manner which of the features are NOT helpful?

1 point

- PMT gain
- Intensity Histogram
- GAL file
- Scatter plot

No, the answer is incorrect.

Score: 0

Accepted Answers:

Intensity Histogram

10) Which of the following is NOT a commonly used algorithm for data normalization?

1 point

- Cyclic Lowess
- Quantile
- Variance Stabilization
- t-test
- Robust linear

No, the answer is incorrect.

Score: 0

Accepted Answers:

t-test

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