RTMS.e36 Flow Cytometry II: Mass and Imaging Cytometry

QUESTIONS

1. Which flow analytical technique uses rare earth metal–labeled antibodies?
   A. FACS.
   B. Mass cytometry (CyTOF).
   C. Principal-component analysis.
   D. ImageStream.

2. What is an advantage of the ImageStream technique over traditional flow cytometry?
   A. It allows for separation of different cell subpopulations in heterogeneous cell mixtures.
   B. It captures high-resolution image data for each event passing through the system.
   C. It obtains absolute quantification data for subcellular compartments.
   D. It can be used on paraffin-embedded tissue sections.

3. As a dermatologist conducting research, you are interested in separating CD4+ lymphocytes from peripheral blood as quickly as possible. Which technique would be preferred?
   A. Phase-contrast microscopy.
   B. ImageStream.
   C. FACS.
   D. Mass spectrometry.

4. One of the advantages of CyTOF-based studies is the following.
   A. It allows for high-throughput multiplex analysis of protein expression data in single cells.
   B. It allows for high-resolution image data collection of single-cell events.
   C. It allows for cells to be sorted after staining and data acquisition.
   D. It utilizes high-resolution fluorescence data.

5. What do flow cytometry, CyTOF, and ImageStream have in common?
   A. They all employ fluorescence-based techniques.
   B. Cells are lysed first and subsequently labeled with antibodies of interest.
   C. These techniques utilize inductively coupled plasma.
   D. Whole-cell suspensions are first labeled with antibodies of interest.

ANSWERS

1. B.
2. B.
3. C.
4. A.
5. D.