

Forum:Seminar papers/Biophysics/2. LF/2017-2018/Group 4A (Natalie): MCQ: Regenerative Medicine, Fluorescence and Advanced Optics

Regenerative medicine

1) During biopsy, the cells first have to be in a free floating state; to achieve this the tissue is minced, then digested with which two enzymes:

A) trypsin or collagenase B) Mannanases or Xylanases C) Transferases or dehydrogenases D) lipase or proteases

2) What necessary property/properties do scaffolds need to have to be used when creating new tissue?

A) Providing stability of the tissue during transport and makes sure it works **B) To be able to decompose and provide nutrition to the tissue** C) The ability to let us observe the implanted tissue D) Directs us to which healthy tissue we need to extract during the biopsy.

3) What general steps are performed in medical regenerative methods?

A) Detection, Biopsy, Cell Isolation and Cultivation, Scaffolds, Seeding and cultivation, Implantation B) Detection, Biopsy, Cell Isolation and Cultivation, Scaffolds and Seeding, Implantation **C) Biopsy, Cell Isolation and Cultivation, Scaffolds, Seeding and cultivation, Implantation, Detection** D) Biopsy, Cell Isolation and Cultivation, Scaffolds, Seeding, Implantation, Detection

4) A cell sorting system known as “FACS” works with fluorescence of cells, but what is it based on?

A) The number of cells that each droplet contains. B) The intensity of fluorescence in each droplet. C) Based on the scattered light and fluorescence characteristics of multiple cells. **D) Based on the scattered light and fluorescence characteristics of each cell**

5) Which of the following procedures is NOT used in the preparation of artificial tissue?

A) Biopsy B) Cell cultivation C) Implantation **D) Recombination**

Fluorescence and advanced optics

1) What is a Fluorophore?

A) A Fluorophore is a fluorescent chemical compound which re-emits light at a shorter wavelength than the one it absorbed **B) A Fluorophore is a fluorescent chemical compound which re-emits light at a longer wavelength than the one it absorbed** C) A fluorophore is a fluorescent chemical compound which completely absorbs light from a source D) A Fluorophore is a fluorescent chemical compound which totally absorbs light from a source

2) Which one of these is true about eye sight corrections?

A) Emmetropia: correction is needed B) Myopia: convex lenses are needed C) Hypertropia: concave lenses are needed **D) Astigmatism: toric lenses are needed**

3) What statement is false in relation to confocal microscopy

A) Increases contrast **B) Increases field of view** C) Increases resolution D) Uses laser as source of light

4) Which is NOT a fluorophore?

A) fluorescein B) cyanine C) coumarin **D) none of the above**

5) Which of the following does NOT make use of fluorescence spectrography ?

A) Detection of fungal infection **B) Detection of cancer** C) Identification of hormones in blood D) Detection of vitamins in blood

