Assignment 5

The due date for submitting this assignment has passed. Due on 2019-09-04, 23:59 IST.
As per our records you have not submitted this assignment.

1) Molecular clutches hold the cell with the extracellular matrix. The correct order of molecules arranged from outside of the cell to the inside of the cell is

- ECM, F-actin, paxillin, integrins, vinculin
- ECM, integrins, paxillin, F-Actin, vinculin
- ECM, integrins, paxillin, vinculin, F-Actin
- ECM, integrins, vinculin, F-actin, paxillin

No, the answer is incorrect.
Score: 0
Accepted Answers:
ECM, integrins, paxillin, vinculin, F-Actin

2) In an experiment, dendritic cells are transfected with lifeact-GFP and the kymograph is drawn. The slope of the kymograph will show the retrograde flow. If the cells are treated with latrunculin it was observed that retrograde flow remains unchanged but when the cells are treated with latrunculin + blebbistatin, it was observed that retrograde flow reduces. The reason behind this is

- Actin polymerization is essential for retrograde flow
- Myosin is the key player in retrograde flow
- lifeact-GFP interfere with retrograde flow
- None of them is true

No, the answer is incorrect.
Score: 0
Accepted Answers:
Myosin is the key player in retrograde flow

3) In bleb based migration on 2D which of the following is true

- Actin polymerization is essential for retrograde flow
- Myosin is the key player in retrograde flow
- lifeact-GFP interfere with retrograde flow
- None of them is true

No, the answer is incorrect.
Score: 0
Accepted Answer:
Myosin is the key player in retrograde flow

1 point
Fate - I (unit? unit=41&lesson=45)

Lecture 25 : Mechanobiology of Stem Cell Fate - II (unit? unit=41&lesson=46)

Download Videos (unit? unit=41&lesson=47)

Quiz : Week5_Assignment5 (assessment? name=89)

Assignment 5 Solution file (unit? unit=41&lesson=98)

Weekly Feedback (unit? unit=41&lesson=48)

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Adhesion – high; Protrusions – low, Contractility – high
Adhesion – low; Protrusions – High, Contractility – high
Adhesion – high; Protrusions – low, Contractility – low
Adhesion – low; Protrusions – low, Contractility – high

No, the answer is incorrect.
Score: 0
Accepted Answers:
Adhesion – low; Protrusions – low, Contractility – high

4) Nucleus size is the determining factor for the cells to migrate inside 3D matrices. If the matrix pore size is smaller than nucleus size, cell motility will be enabled by

- High protrusions and low cell contractility
- High protrusions with high adhesion
- High adhesion with low protrusions
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
None of the above

5) During collective cell migration, which of the following characteristics is/are not associated with leader cells?

- Low traction force
- Mesenchymal in nature
- High focal adhesion
- All of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Low traction force

6) If we plot distance vs time graph for both leader and follower cells, we will find

- Leader cells curve has higher slope than follower cells
- Follower cells have a higher speed than leader cells
- The average speed of the leader cells is constant
- Both a and c

No, the answer is incorrect.
Score: 0
Accepted Answers:
Both a and c

7) Multipotent stem cells have less potency than pluripotent cells because

- They are more differentiated
- They are obtained from pluripotent stem cells
- They cannot form all cell types in our body
- All of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
All of the above

8) Read the statements:
i. Germ cells are one example of stem cells.
ii. During the differentiation of stem cells, some genes get turned on some get turned off.
iii. Adult stem cells cannot be converted into other types of cells.
iv. Pluripotent stem cells are found in blastocyst.

Which of the following statements is true?

- Only (iii) is false, others are true
- (i) and (iii) are false others are true
- All of them are true
- All of them are false

No, the answer is incorrect.
Score: 0
Accepted Answers:
Only (iii) is false, others are true

9) If fibroblasts are seeded on top of soft and stiff ECM substrates, which of the following statements in true?

- Increase of pFAK signaling
- Increase of surface area of the cells
- Both a and b are correct
- None of them are correct

No, the answer is incorrect.
Score: 0
Accepted Answers:
Both a and b are correct

10) Which of the following is not true?

- Undifferentiated cells will be differentiated according to the stiffness of the ECM
- Stiffer cells will have very low focal adhesions with low F-actin count
- Within the same stiffness, the shape of the cells can also trigger differentiation
- All of them are not true

No, the answer is incorrect.
Score: 0
Accepted Answers:
Stiffer cells will have very low focal adhesions with low F-actin count