Module: Cell migration – 2018 Ruth Kroschewski – April 2018

I Assignment distribution:

Deadline for submission: Tuesday 8 May 2018, 8:00 am
Due date for approved last version: June 10th, 2018 (midnight)

Cell migration

Learning groups	Assignment
5	schematic diagram task 1
6	schematic diagram task2
7	schematic diagram task3
8	schematic diagram task 4
9	Multiple choice Chapter 1
10	Multiple choice Chapter 2
11	Multiple choice Chapter 3
12	Multiple choice Chapter 4

II Multiple choice (MC)

Establish an MC according the general instructions for an MC for the indicated chapter out of the migration script.

III Guidelines “schematic drawings” module: cell migration

A. Format – submission

- the drawing itself is contained on 1 A4 page with a **title** visible on that page (PDF format).
- the drawing is entirely based on content of the cell migration scripts (excluding proteins not mentioned in the migration scripts)
- there is a second document (PDF format), in which legend symbols and a short explaining legend text are given.
- deadline for submission: Tuesday 8 May 2018, 8:00 am
- submission to: Moodle folder

B. Revisions - use of office hours

Ruth Kroschewski will comment via email your submitted schematic drawing as soon as possible. This should allow you to establish a revised version. You are invited to ask via email for a 30 min appointment on one of Ruth Kroschewski’s office hours:

Wednesday 16.5.2018 12:00 -13:00

Thursday 17.5.2018 12:00 -13:00

Friday 18.5.2018 12:00 -13:00

To make this personal feed back most fruitful, Ruth Kroschewski recommends you email her your revised version 24 h before the scheduled meeting.

Please be aware that we likely have several rounds of revision. I recommend you to have my final approval with the end of the semester – namely June 2nd 2018. Formally, the final i.e. by Ruth Kroschewski approved - document has to be with Ruth Kroschewski by **June 10th, 2018** (midnight).

Tasks for schematic diagrams for the module “cell migration”

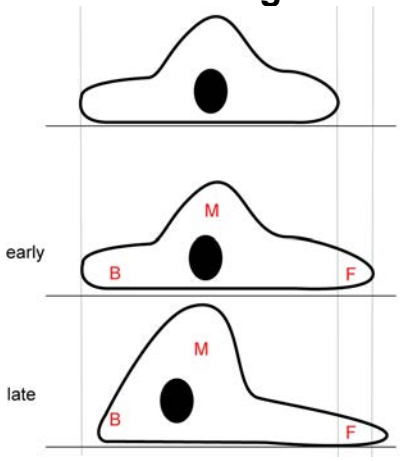

Figure: Illustration of a fibroblast that starts to migrate from left to right. Grey lines as spatial reference marks; F = front, B = back, M = middle of a cell. Black circle = nucleus.

Migration task	Detailed assignment topics
1	**Title:** Illustration of where most ATP-hydrolysis occurs during the retraction of the rear in a migrating fibroblast. Depict: i) which protein is involved? ii) in which bigger molecular structure is this occurring, iii) where in a migrating fibroblast is this structure?
2	**Title:** Function of the Arp2/3 complex and cofilin in the leading edge. Depict: i) the molecular regulators that impinge on the Arp2/3 complex and cofilin and ii) their respective functions to address the question, *why are both activities needed to extend a leading edge.*
3	**Title:** Illustration of the effect of Stathmin and GEF H1 in a migrating fibroblast. Depict: i) the fibroblast as above (F,M,B) and where these regulators are acting. ii) are they active in both migration phases?
4	**Title:** Spatial organization of **early** signaling events in a migrating fibroblast (whereby a) “early” excludes the retraction of the cell rear; b) migration over a fibronectin-coated glass surface) Consider: i) how does it start? Is there a cascade of events? ii) which cytoskeletal element is mainly affected; where in the cell (F,M,B)? iii) what is the major molecular difference to late events?

Next page: Guidelines