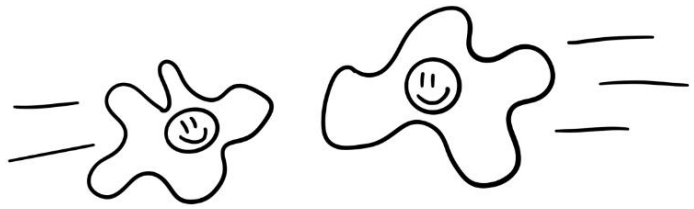
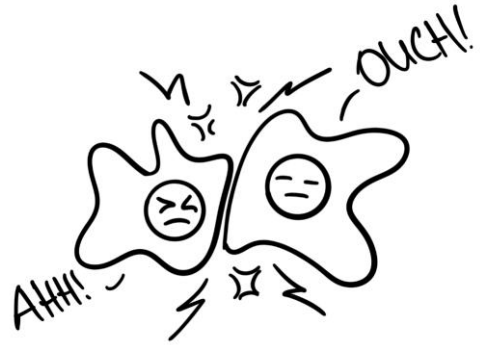
Fantastic cell navigation & how to test it

A scientific comic by Leonie Woitalla

Cells can move through tissue by changing their shape.



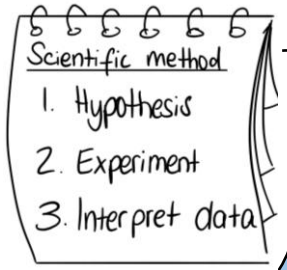
When they bump into each other…



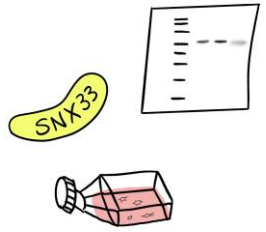
… they notice and move away.

But why is that?

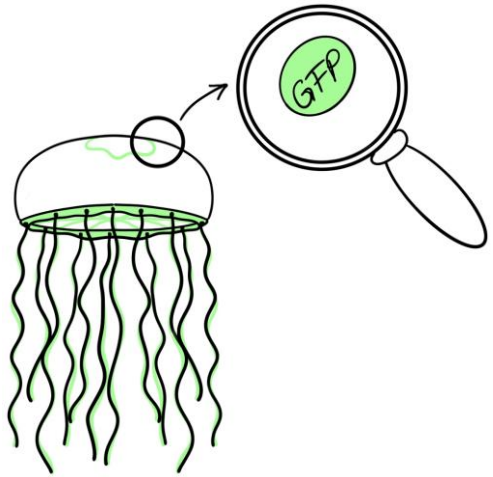
Let's find out using the:



Previous research suggests the protein SNX33 plays an important role!

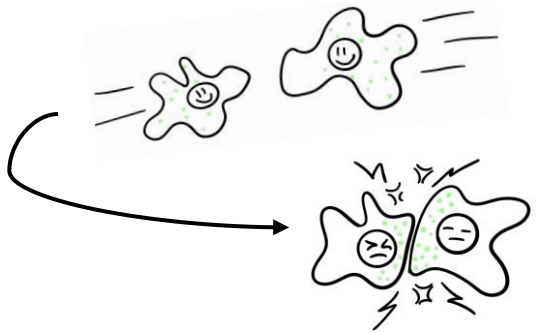


To make SNX33 visible we attach it to a fluorescent protein from jellyfish called GFP.



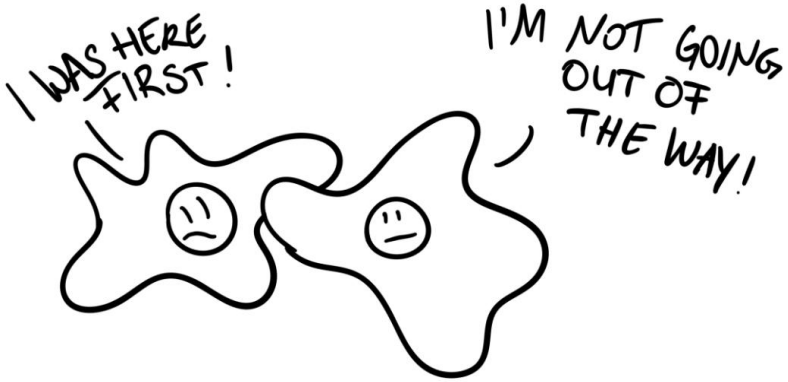
Now we can see SNX33 as little green dots under a microscope.

Let's check where SNX33 is normally in a cell.

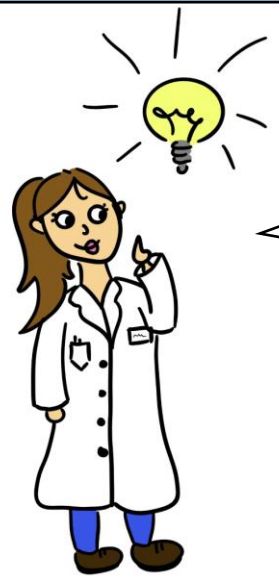


When cells bump into one another SNX33 moves to the contact area and the cells' surface flattens.

Let's see what happens to modified cells where SNX33 is missing.



We could not see any green dots, so there was no SNX33 in the cells. Also the cells did not get out of each other's way.



This shows SNX33 is important for cells to notice crashing and to move out of each other's way!

Now we can formulate a new hypothesis to find out which other factors play a role in cell navigation!

Comic by Leonie Woitalla
Drawings source: Leonie Woitalla
Applications used: Sketchbook, Power Point
Based on the lectures “May the Force be with You: Mechanics in Biology” and “More than the Sum: How composite Interfaces govern Function” by Alba Diz-Muñoz