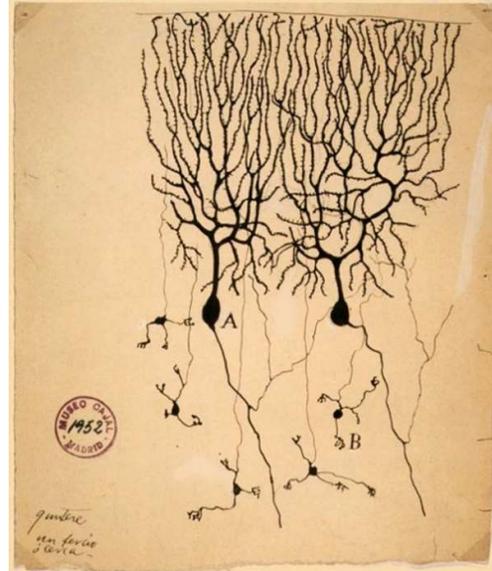


Which is the fairest brain cell of them all?

More than 100 years ago, scientists stained individual brain cells for the first time. This enabled them to identify individual cells in a dense network of brain cells and then draw them in a simplified way. These drawings were amazing back then and are still an inspiration for brain researchers today. Up until now, researchers use different methods to stain individual cells in the mouse's brain. One of them was co-developed at IST Austria. It is called MADM¹ (pronounced "Madam") and stains cells in red, green, and yellow. Let us take a closer look!



What you will learn:

The mouse brain consists of different areas. In each one, there are cells that have a unique shape. These shapes only become visible under the microscope at high magnification.

Preparation:

- Print the research protocol (PDF file).
- Open the MADM Brain Explorer on the internet using the following link on your computer, mobile phone or tablet: <http://scopeseducation.org/madm>

MADM stands for "Mosaic Analysis with Double Markers" – find more information at <https://scopeseducation.org/tutorials/madm/>

Here is how it works:

- Add your name, age, and date in your research protocol.
- Look at cells in a real mouse brain with the MADM Brain Explorer.
- Choose a region of the brain and click on it. Now look at this region in the microscope:
 - Every yellow, red, or green dot is a cell stained with MADM.
 - The blue area indicates other brain cells which are not stained with MADM.
- Zoom into the picture to get a closer look at the cells.
- Try to find colorful MADM cells with different shapes.
- Which MADM cell do you find the most beautiful? Draw them in your research protocol! You can also draw several cells.
- In the middle part of the research protocol, mark the region of the brain where your cell comes from. For this, compare the shape of the microscopic picture online with the brain regions printed on your protocol.

Show us your most beautiful cell!

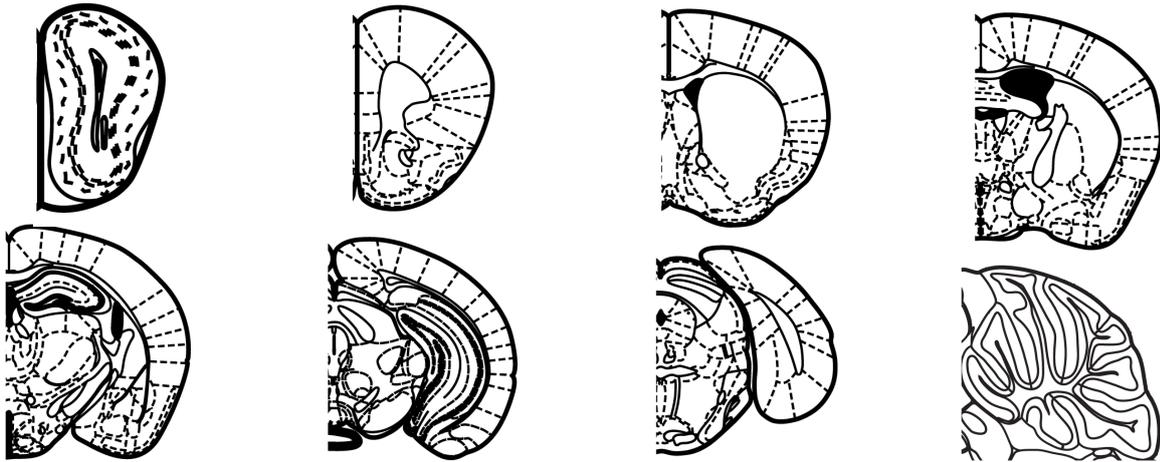
Share your picture on Instagram/Facebook/Twitter with the hashtags **#istaustria** and **#popupsience** and look at which cells others liked. You can also send your drawing to popupsience@ist.ac.at - we will put it on display! If you have any questions about your cell, also send them to us. We will be happy to answer them!

Special questions for advanced young researchers:

- How many different shapes of cells can you find?
- Can you see connections between the cells?
- Are there cells that only occur in a certain region of the brain?

Scientists Name	Age	Date

Record where you found your cells on the sections below



Draw Your Brain Cells Below!

Share your drawing on Twitter, Facebook or Instagram with the #istaustria and #popupsience and see which cells others loved.

