

WHERE DO WE STAND?

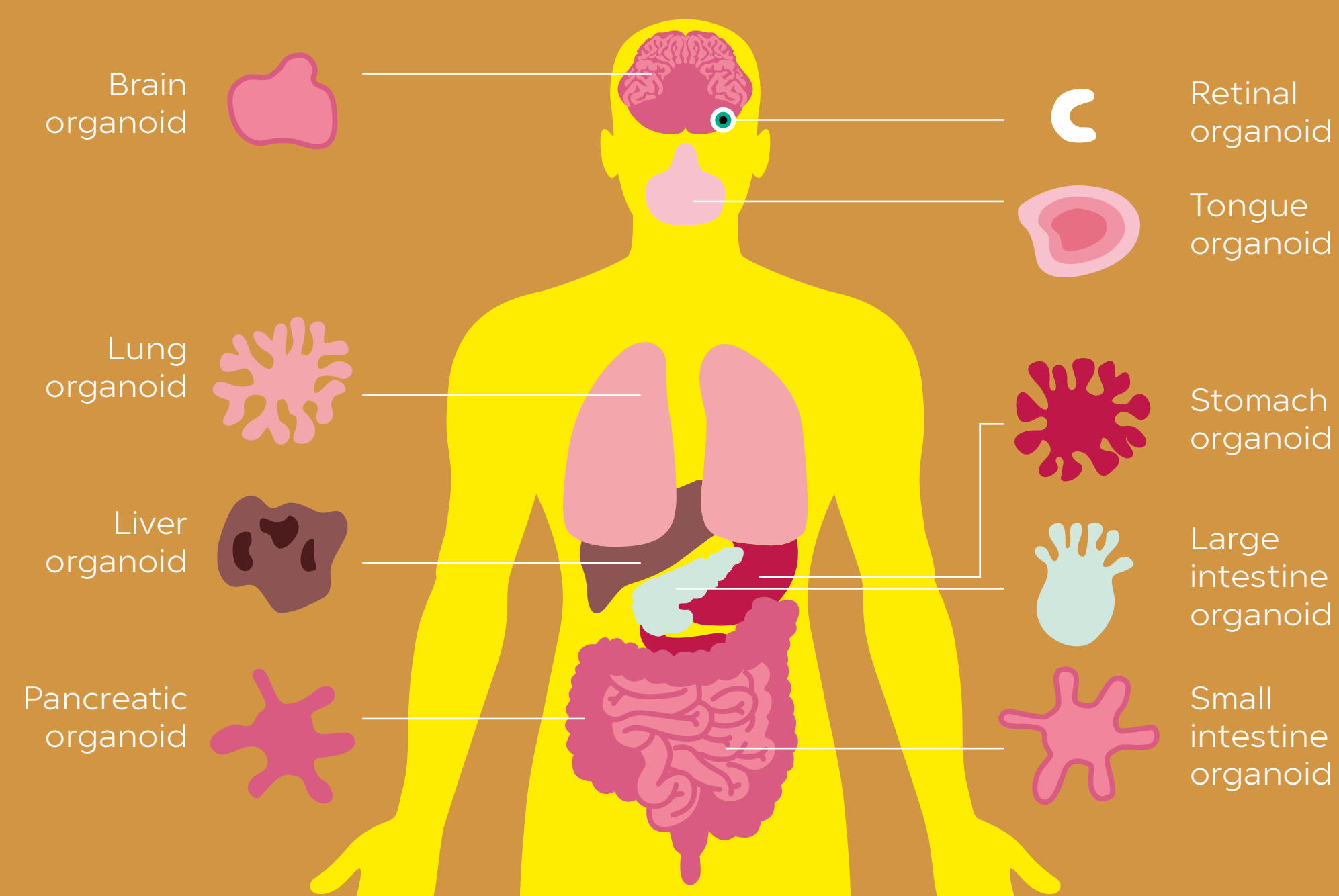
What do we know?

Organoids offer scientists alternatives to animal experiments or research methods that reach their limits owing to ethical questions or limited availability. They allow complex arrangements and interactions of cells to be viewed in a three-dimensional space. Today, organoids are already used to study diseases and to develop drugs.

What are we investigating?

Currently, we are studying how all different types of human tissue can be grown in the form of organoids. This allows us to study the development of diseases in an organ. Scientists test organoids for their applicability in regenerative medicine. In the future, new pharmaceutical agents can first be tested on organoids instead of directly on animals or humans.

Organoids grown in the laboratory



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MINI-ORGANS FROM THE LABORATORY

Organoids

Scientists have succeeded in creating so-called organoids in the laboratory. Organoids are cell clusters that already consist of several types of cells typical for the respective organ and develop rudimentary 3D structures. While their structure resembles that of the bowel or the brain, they grow to a size no larger than a pea.

In the future, they could be used in research and in regenerative medicine.

WHAT DO WE WANT TO ACHIEVE?

Using organoids, scientists study the development and disease of organs. In the future, the cell structures that have been grown can contribute to the development of new treatments and drugs.

1

Growing all types
of human tissue

2

Understanding
how organs are
formed

3

Using organoids
to study diseases
of organs

4

Testing new
drugs on
organoids