

GUT SENSOR COULD MONITOR HEALTH—AND BEAM RESULTS TO A SMARTPHONE

Science, May 2018

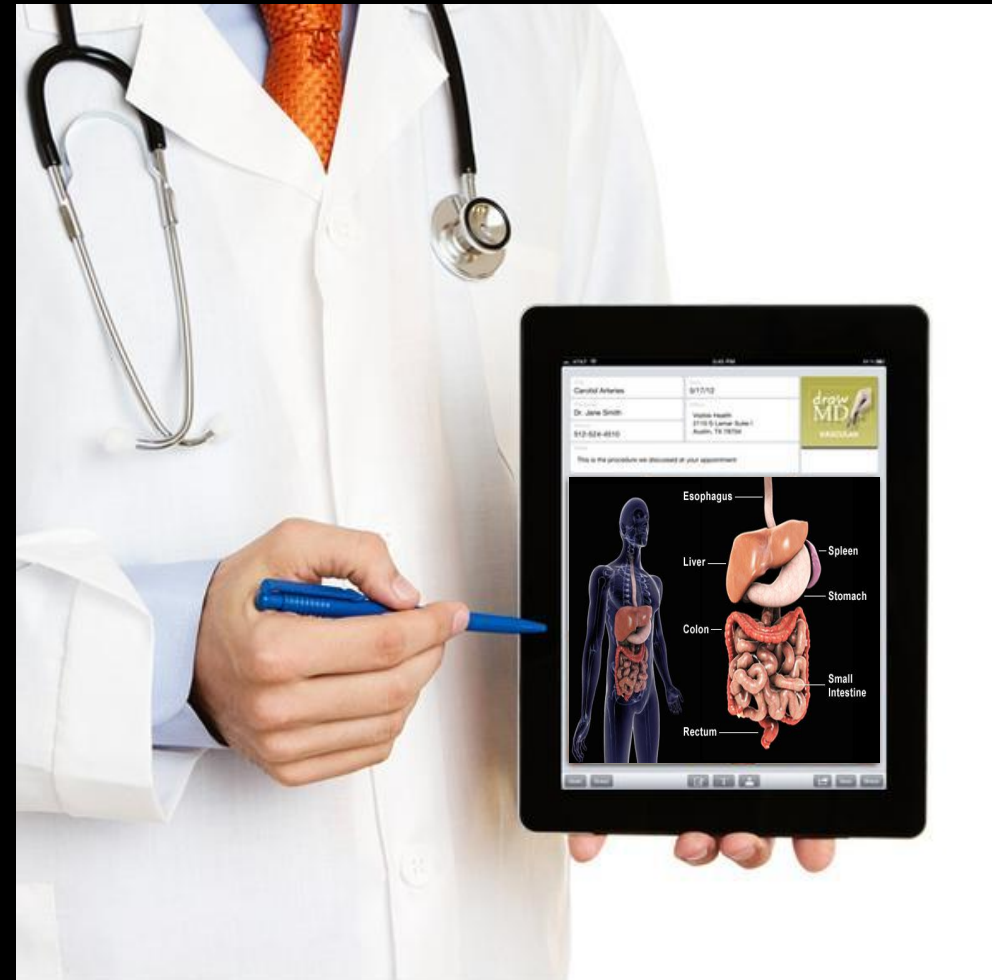
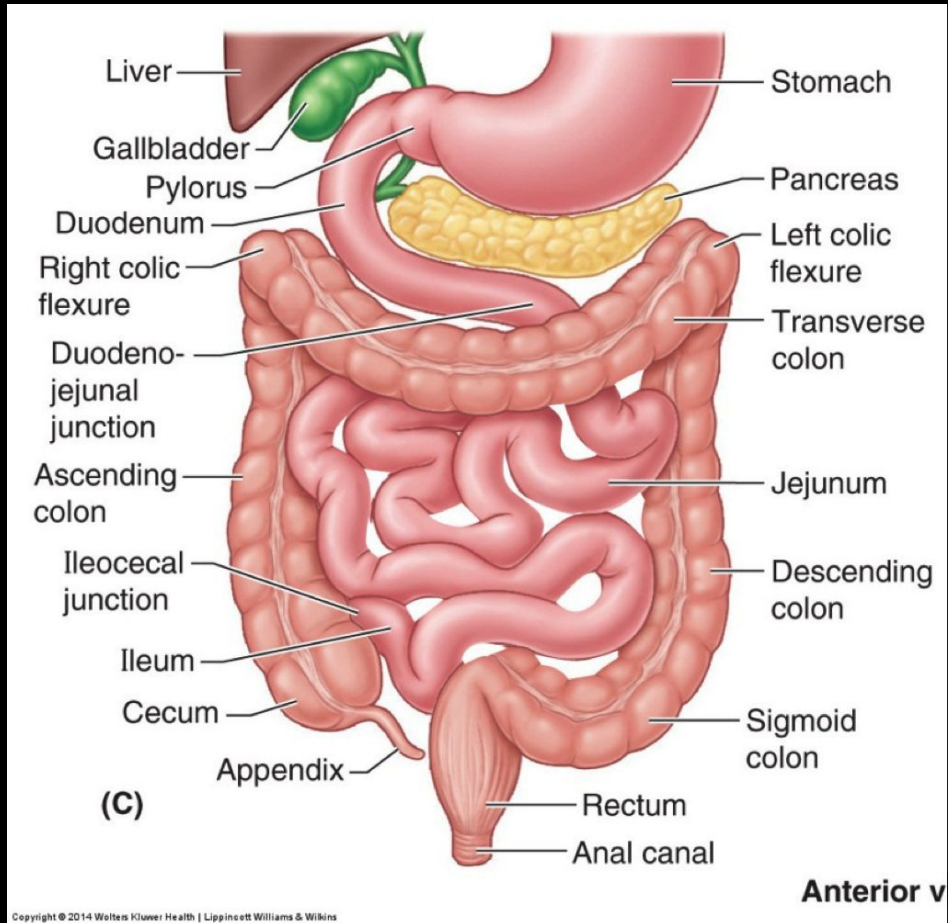
Borisov Alexander 517

MIPT 2019

PLAN

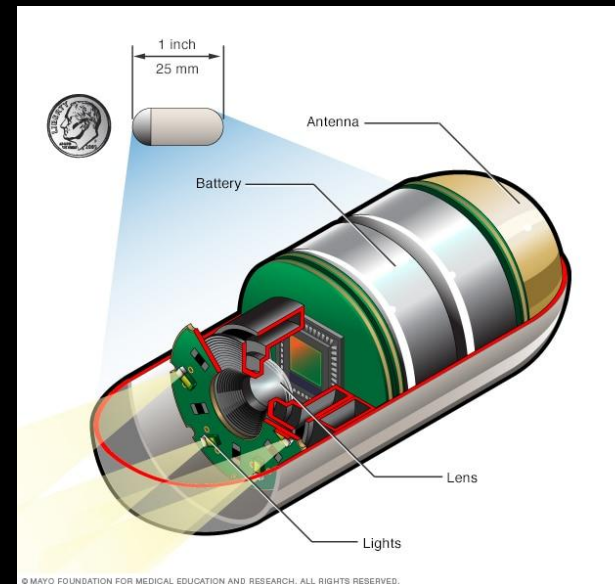
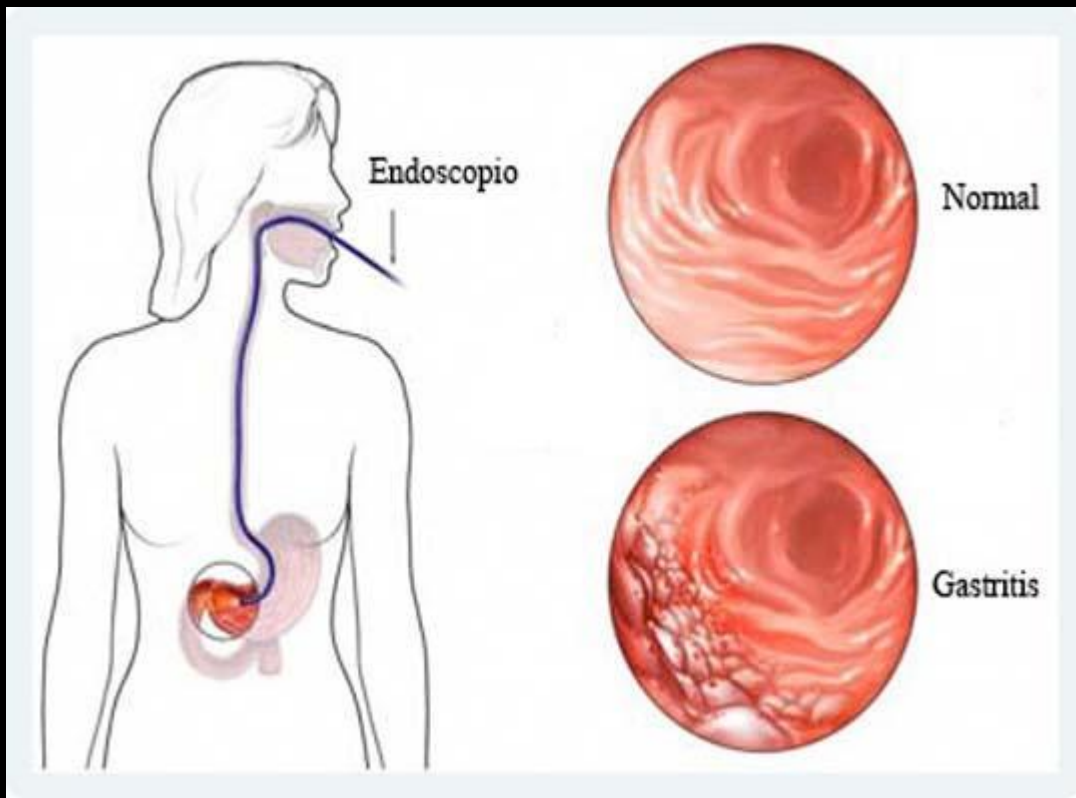
- **General information.**
- **Method and equipment**
- **Achievement and concept**

THE FUTURE OF MEDICINE

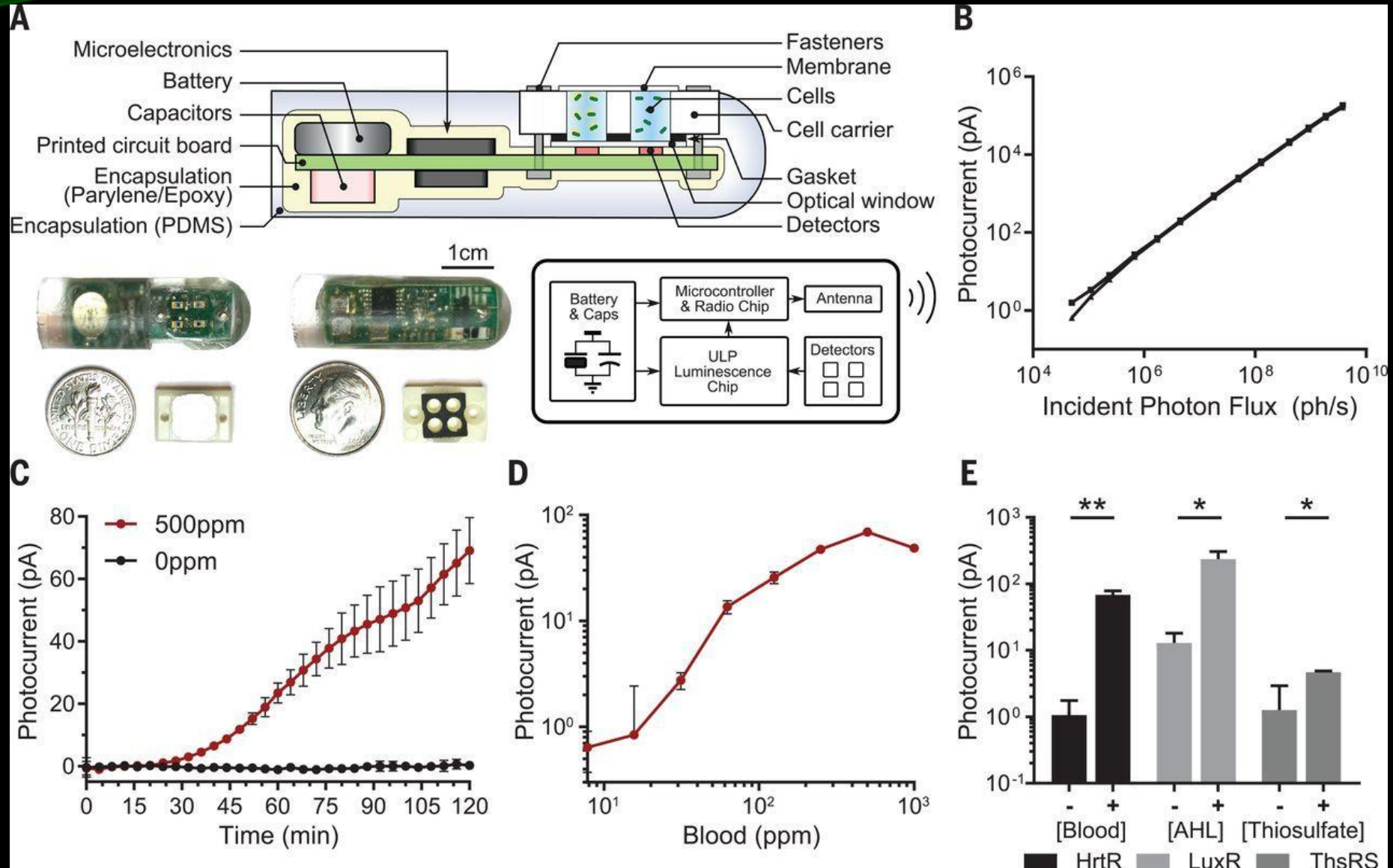


GENERAL INFORMATION.

- The importance of gut health
- Available medical research tools



METHOD AND EQUIPMENT



BACTERIAL BIOLUMINESCENCE

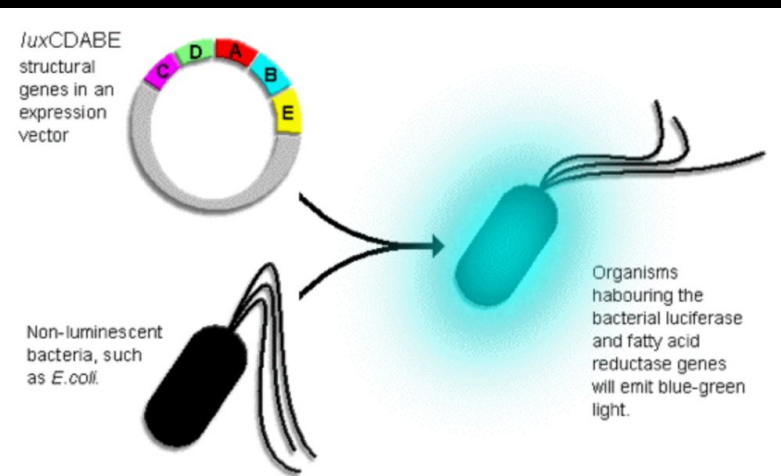
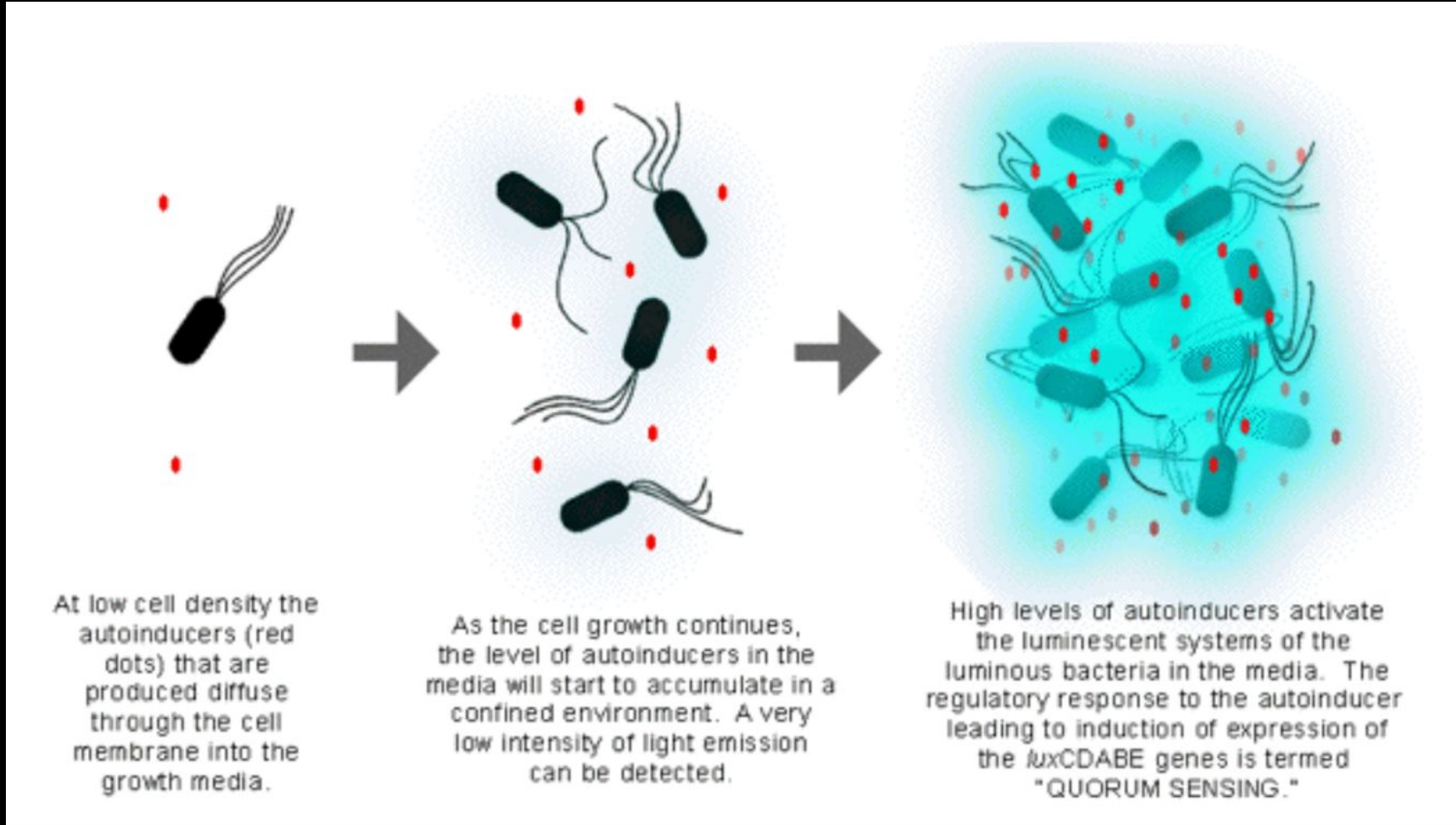


Figure 19. The "insertion" of the foreign *luxCDABE* structural genes into the organism allows the fatty acid reductase enzyme complex and luciferase to be expressed, and the function of luciferase confers the organism the ability to emit light.

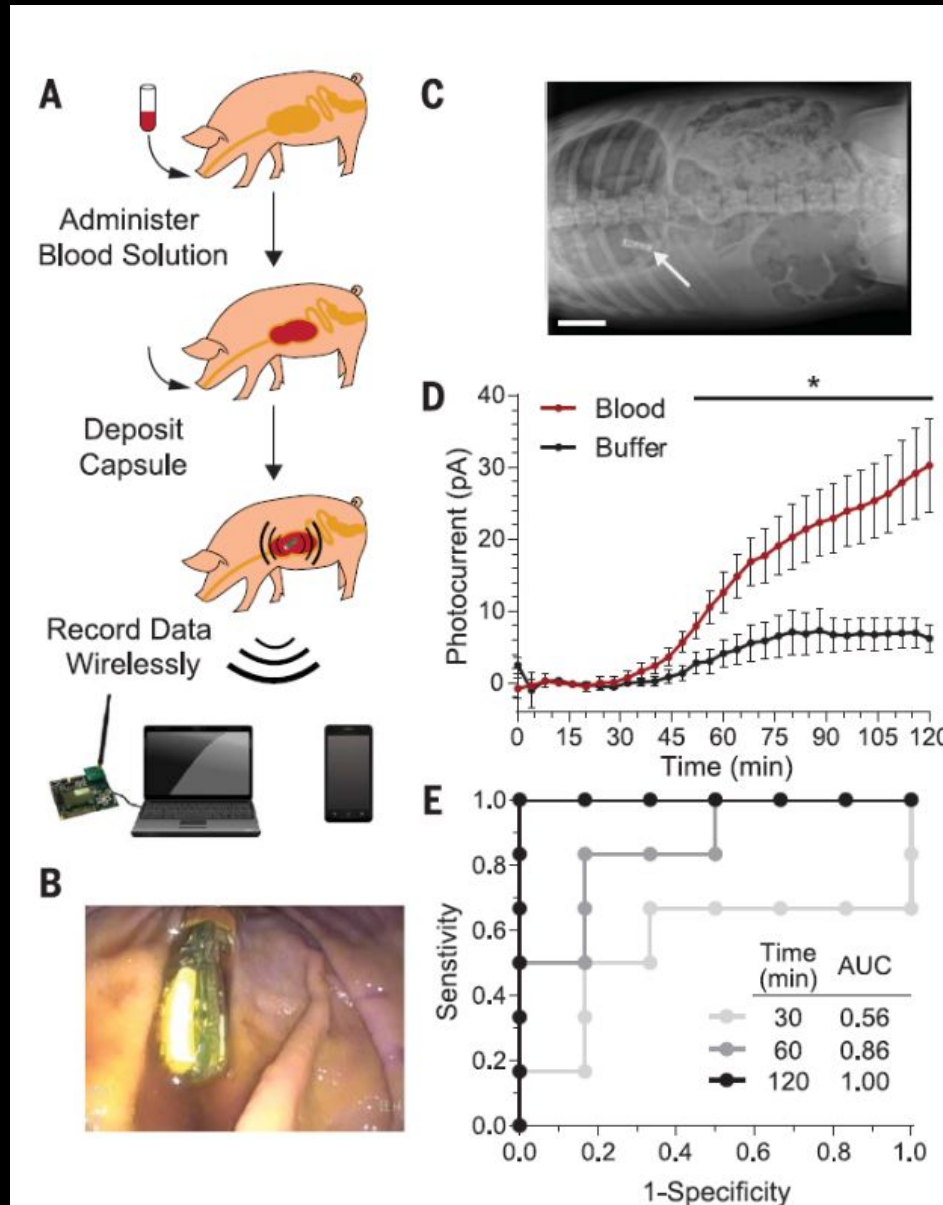


ACHIEVEMENT AND CONCEPT

- First results on pigs
- Size problem
- More biomarkers

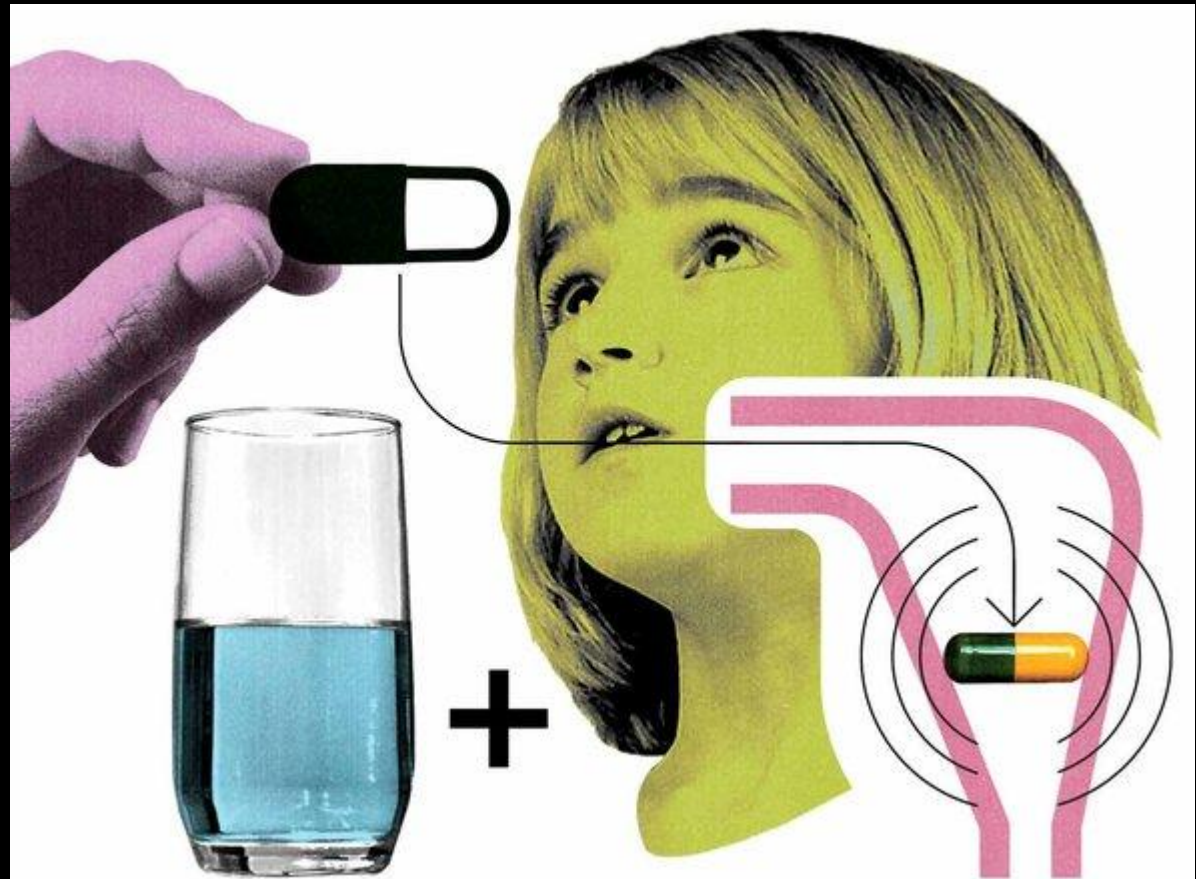
FIRST RESULTS ON PIGS

- The device was able to distinguish between pigs with modeled GI bleeding and a control group, with 100 percent accuracy.



SIZE PROBLEM

- The main task is to reduce the size of the device



SUMMARY

- **General information.**
- **Method and equipment**
- **Achievement and concept**

QUESTIONS

