

Animals Make a Better World

Animal Welfare - Importance in Biological Research

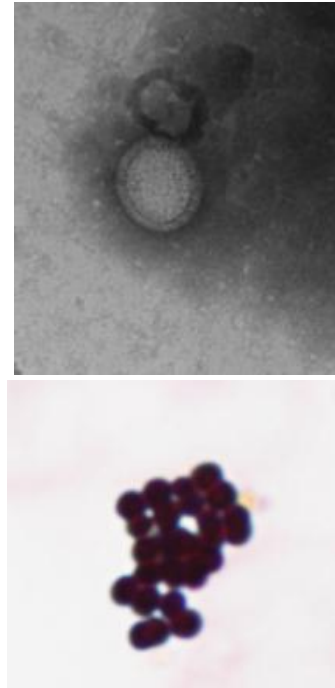
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Contributions of animals in biomedical research

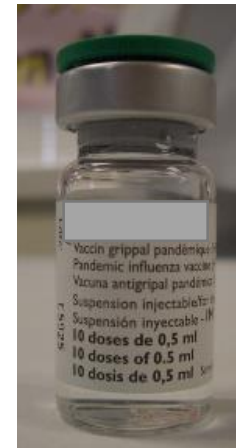
INTERDISCIPLINARY
QUICK
TALKS



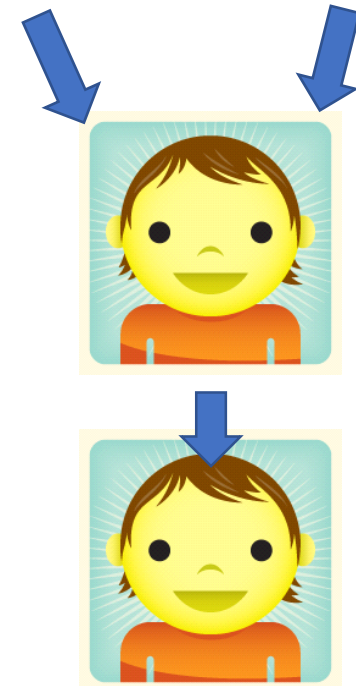
Understanding a disease



Understanding the bugs



Evaluating the effectiveness /mechanism of drugs and vaccine



Assessing risk of transmission

Balancing benefits vs animal welfare



Animal experiment or not?

- Only be performed when they are essential
 - New discovery of ... knowledge which will be useful for saving or prolonging life, or alleviating suffering, or for combating any disease whether of human beings, animals or plants
 - Testing any former discovery alleged to have been made for the advancement of the types of knowledge
- Weigh the scientific value of the project against the potential effects on the welfare of the animals

Guiding principles – 3Rs

Replacement

Reduction

Refinement

Guiding principles – 3Rs

- **Replacement**
 - Replacement of animals with another method

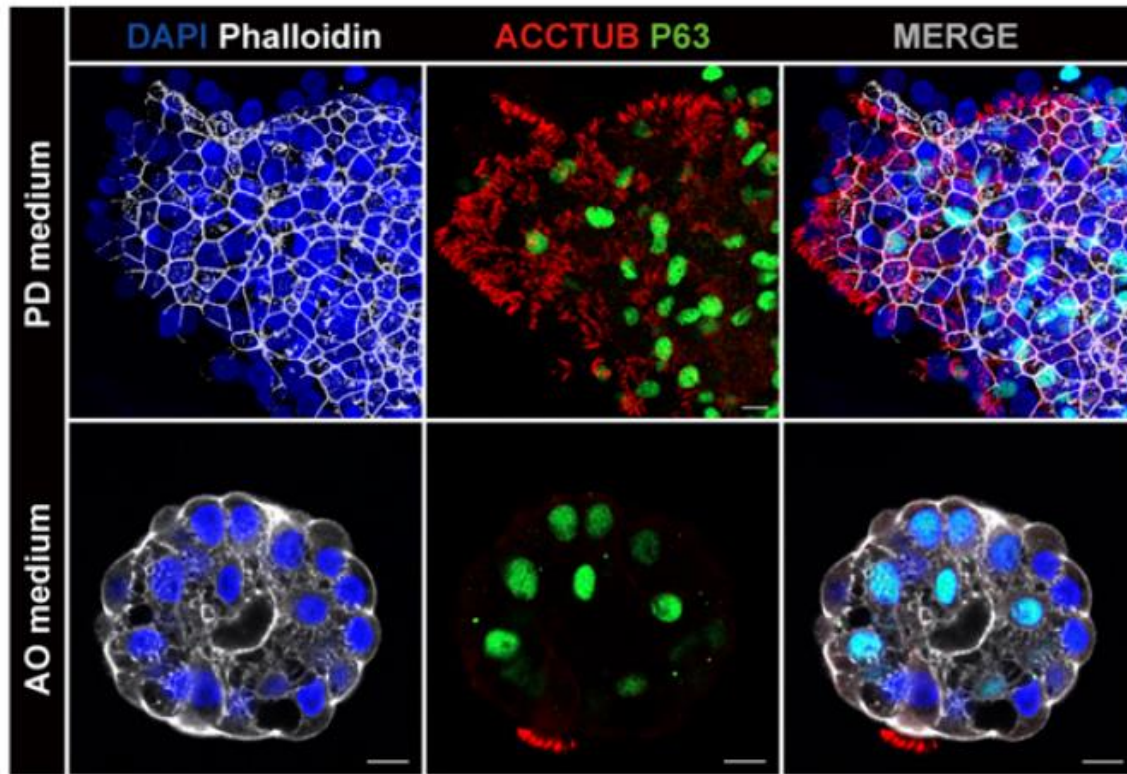
- **Reduction**

- Methods for obtaining comparable levels of information from the use of fewer animals in scientific procedures or for obtaining more information from the same number of animals

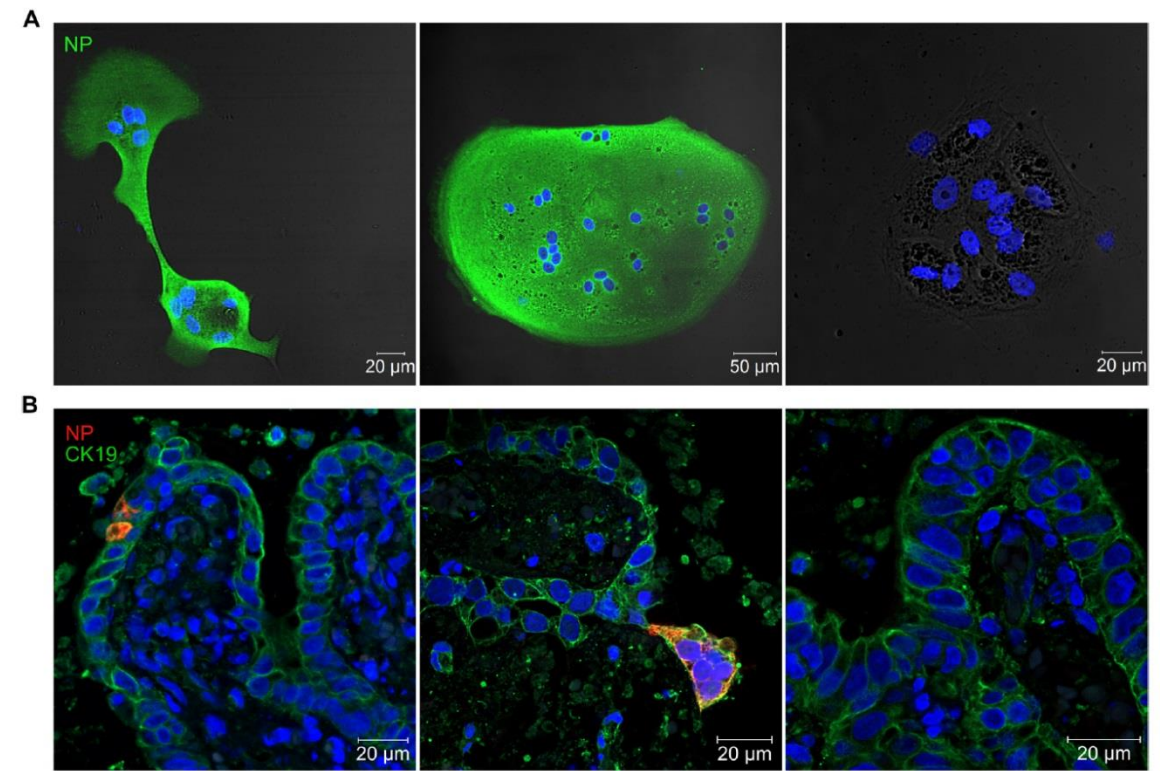
Method of the Year 2017: Organoids

The ability to prod stem cells into three-dimensional tissue models makes for a powerful way to study human biology. But these exciting tools are still works in progress.

Airway



Intestine



Organoids - advantages

- Similar to an actual organ
- More likely to mimic the situation in humans
- Therefore
 - REPLACE some experiments
 - REDUCE number of animals needed

Guiding principles – 3Rs

- **Refinement**
 - Methods that alleviate or minimise potential pain and distress, and enhance animal wellbeing

Refinement



Good welfare equals good science

THANK YOU

