

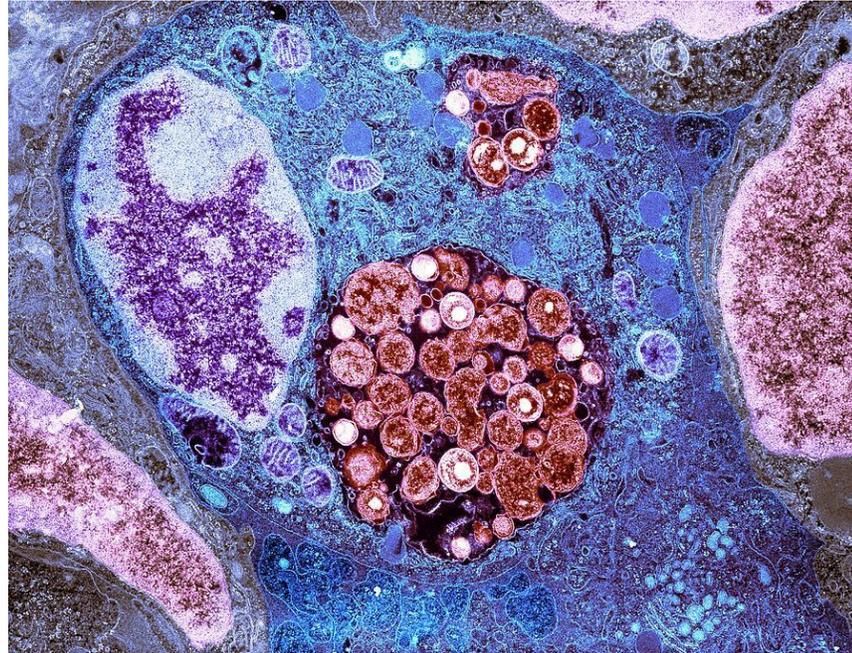


# Developing in vitro assays to measure antibody mediated protection against intracellular bacteria

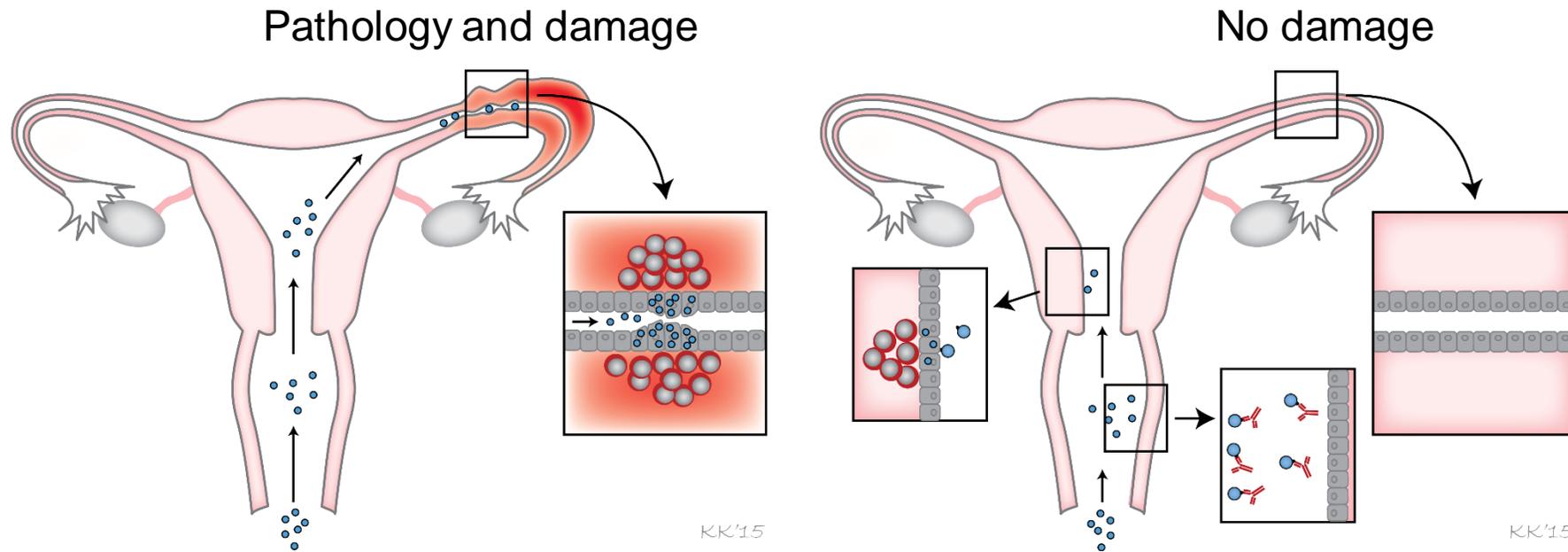
Senior Scientist Jes Dietrich,  
Dept. of Infectious Disease Immunology,  
Division of Vaccine,  
Statens Serum Institut, Artillerivej 5,  
DK- 2300 Copenhagen S



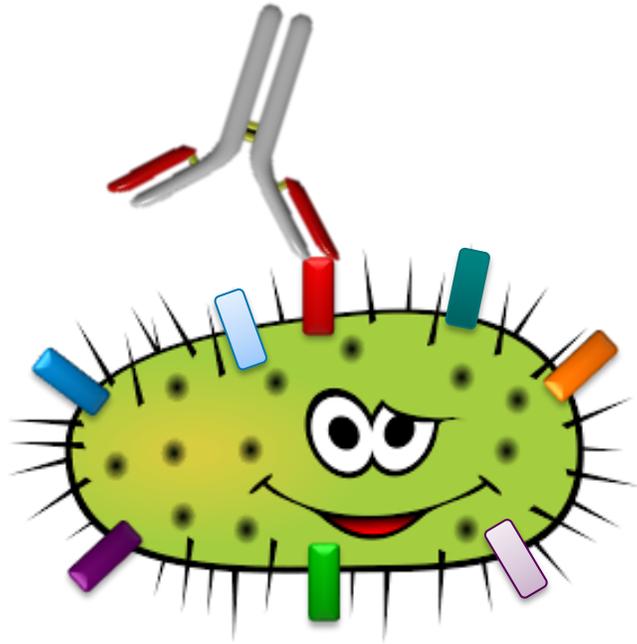
Chlamydia, caused by infection with *Chlamydia trachomatis*, is **the most common sexually transmitted disease in Europe**. More than **100 million chlamydial** infections are estimated annually worldwide. Chlamydia infection can cause serious damage to the female reproductive organs and lead to infertility.



**A vaccine should induce protective antibodies, that prevent pathology and immune-mediated damage**

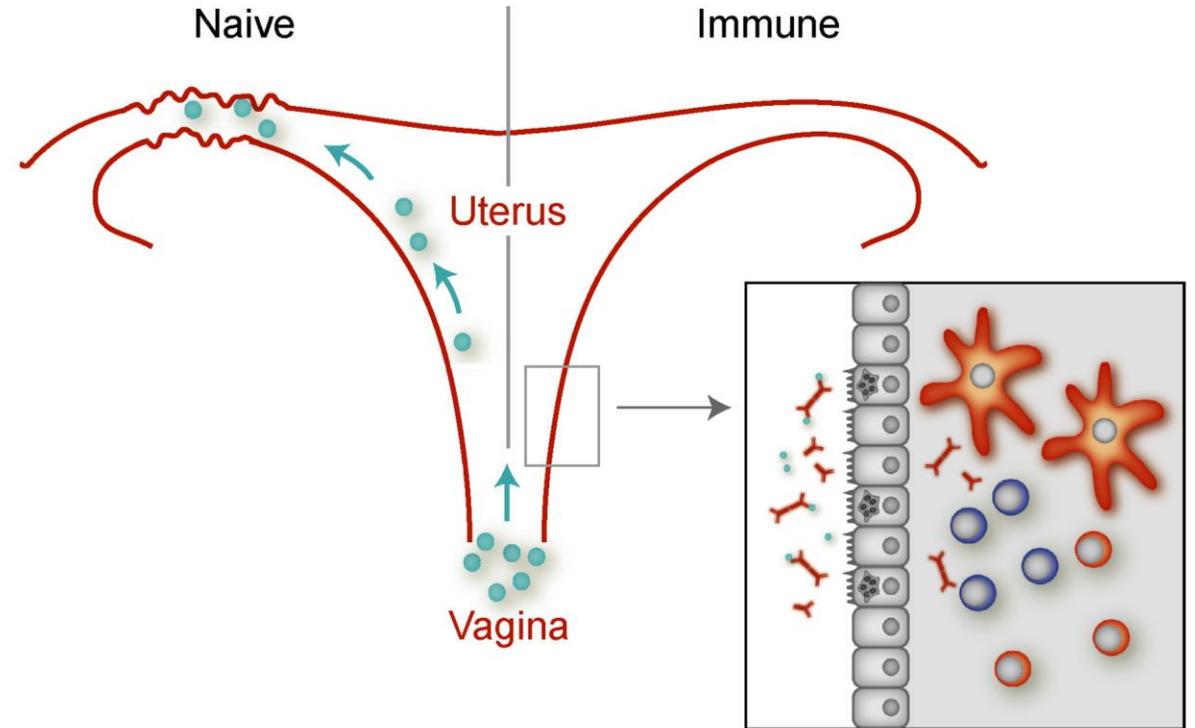


# WHAT SHOULD THE ANTIBODY BIND TO?



**What should the antibody bind to?**

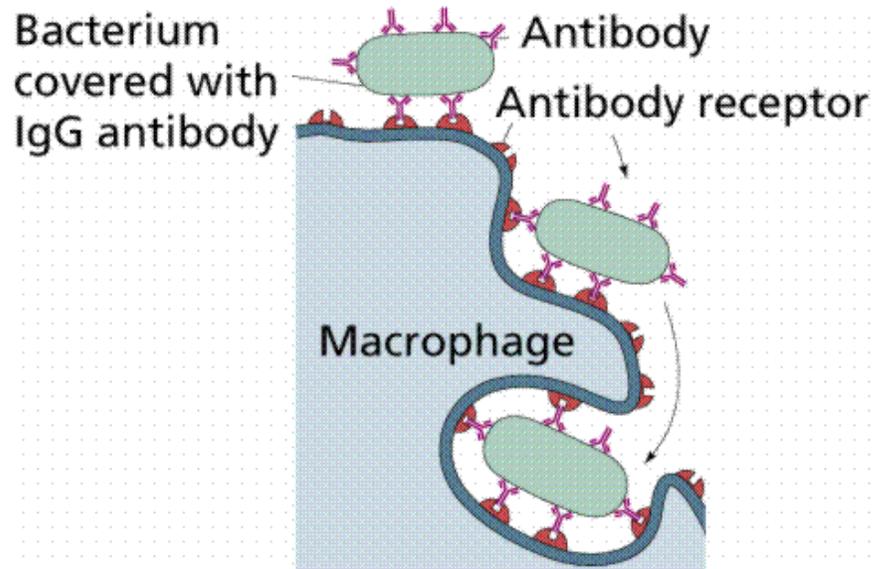
**How can we generate and test all the antibodies?**



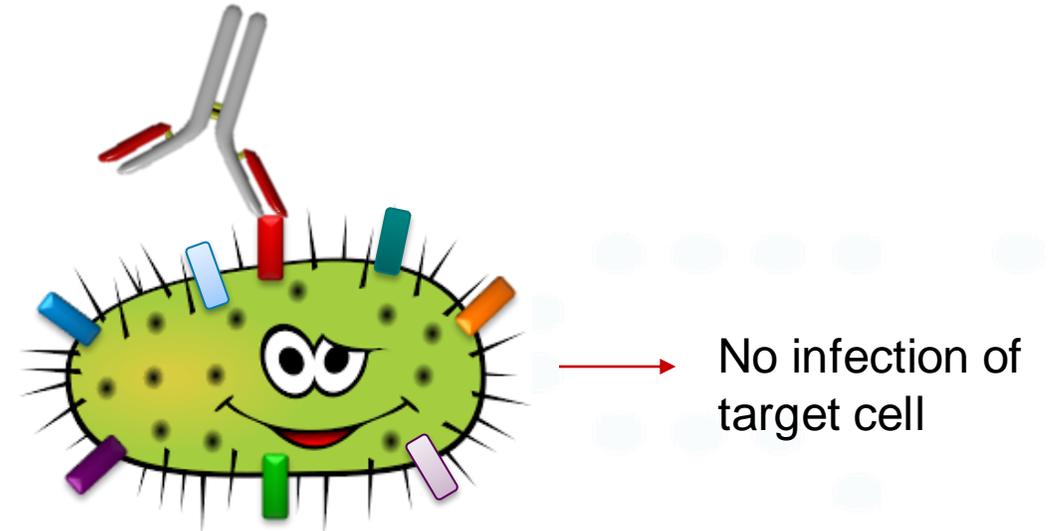
# ANTIBODIES THAT PROTECT

The aim for the project is to develop two *in vitro* assays that can test if vaccine induced antibodies can mediate a protective function. The goal is that these assays will replace/reduce the animal experiments normally required to accomplish this.

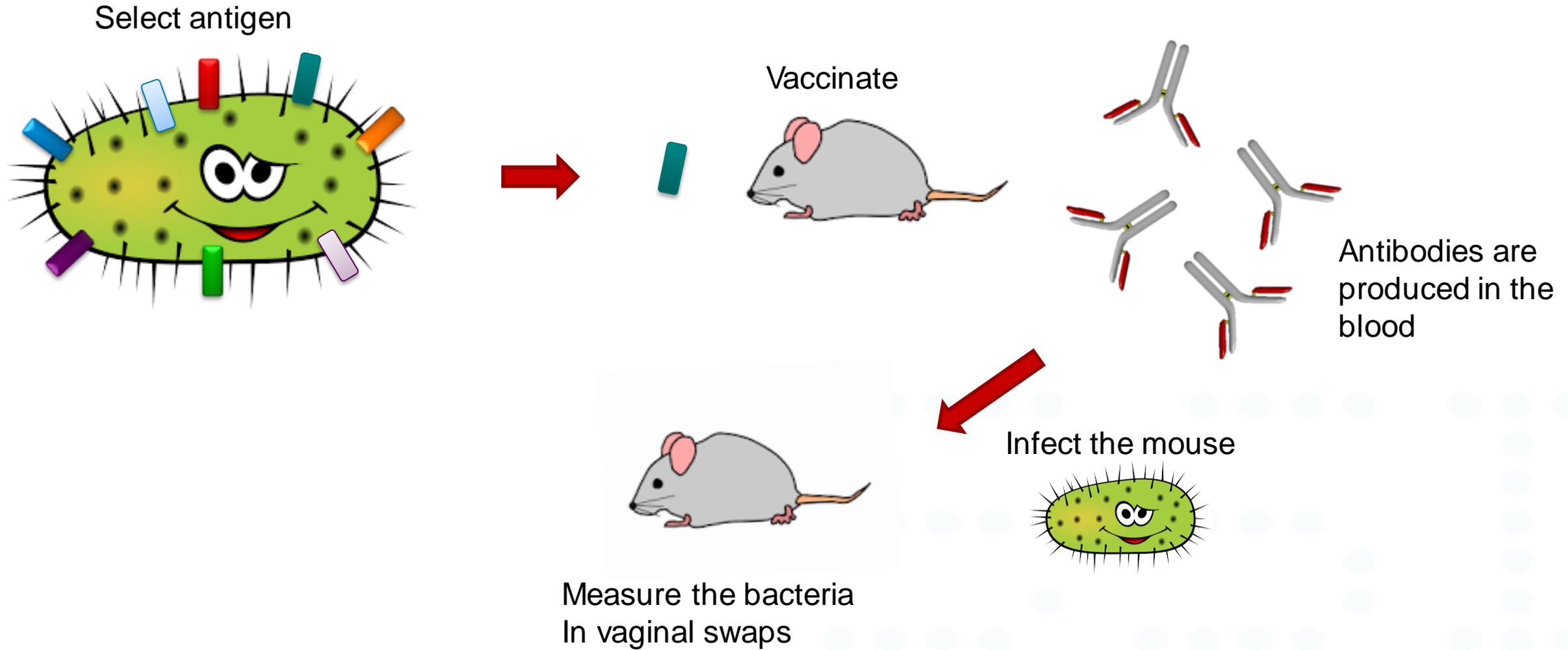
Induction of phagocytosis



Neutralization

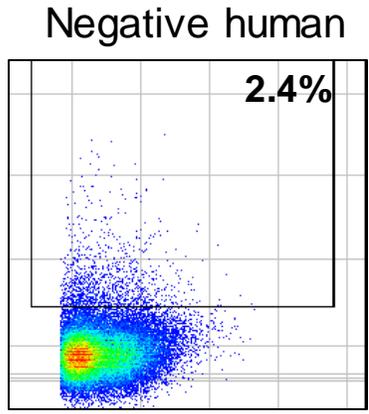
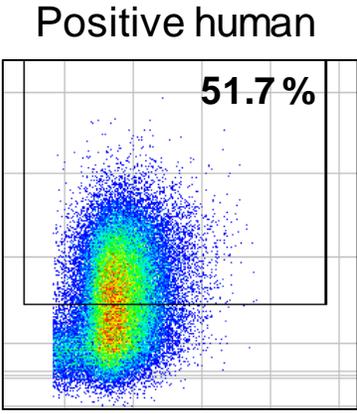


# CHLAMYDIA TRACHOMATIS – EXPERIMENTS IN MICE

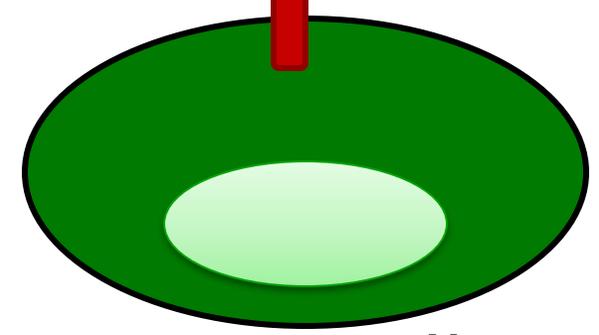
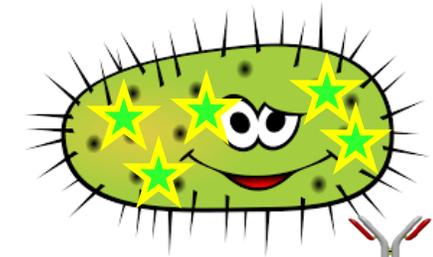
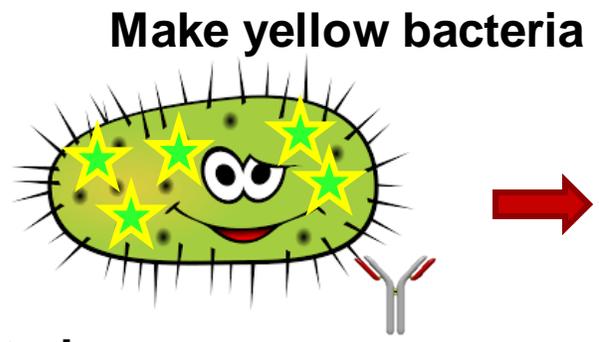




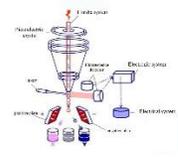
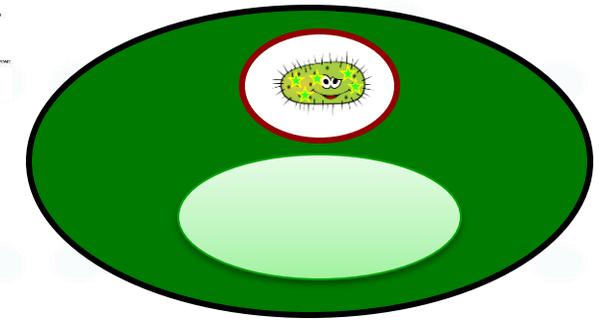
# FACS BASED PHAGOCYTOSIS ASSAY



Collect Ab  
And coat bacteria



Neutrophil

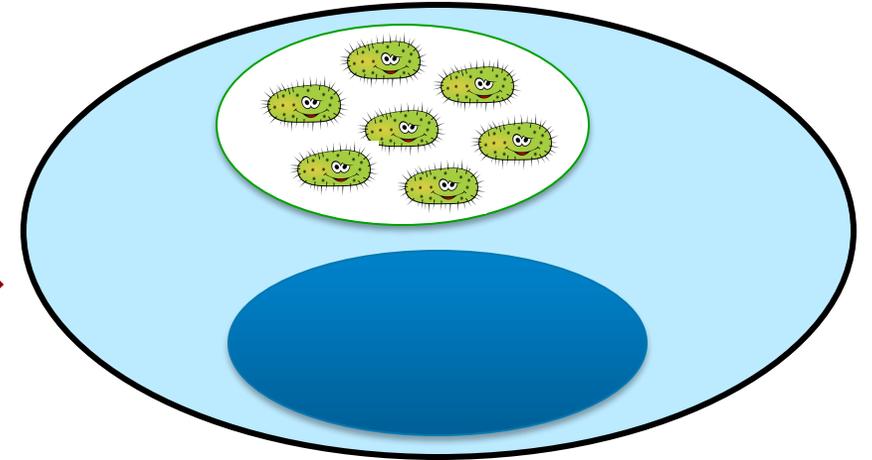
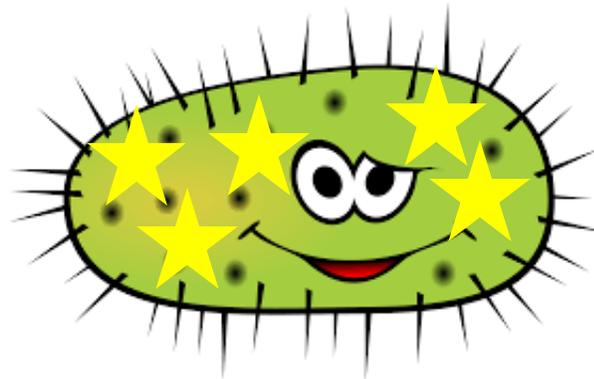


# FACS BASED NEUTRALIZATION ASSAY

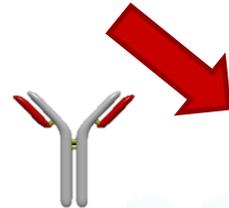


Vaccinate and collect Ab

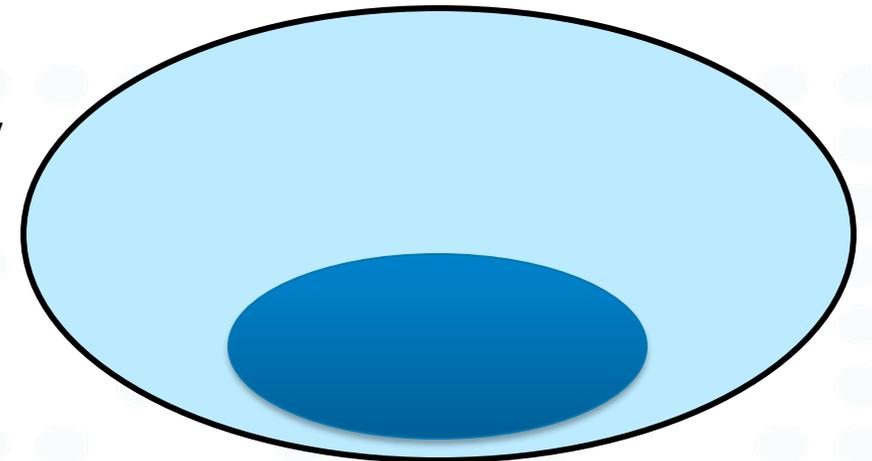
Add Ab to bacteria



Target epithelial cell



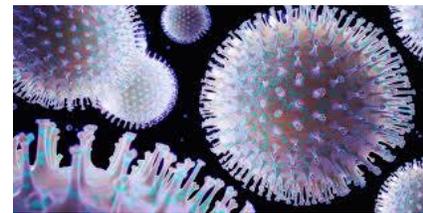
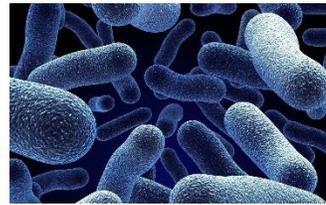
Neutralizing antibody



50.000 cell/sec



# Developing in vitro assays to measure antibody mediated protection against intracellular bacteria



Danmarks 3R-Center  
**RRR**

