

Vaccine development for Severe Acute Respiratory Syndrom AvP/NIH-PROJECT

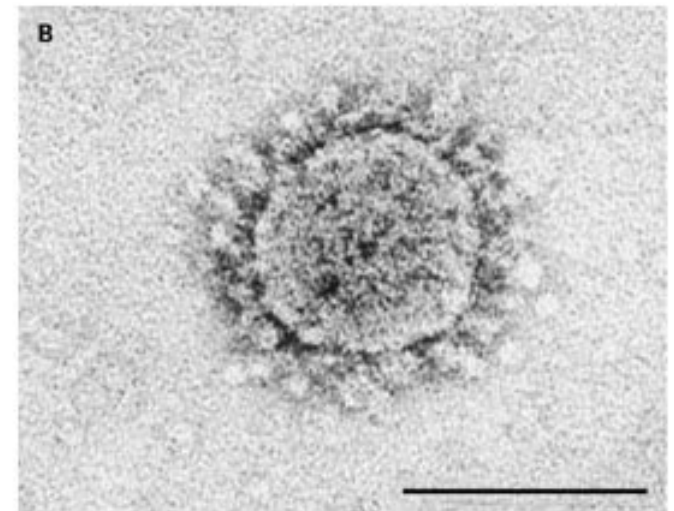
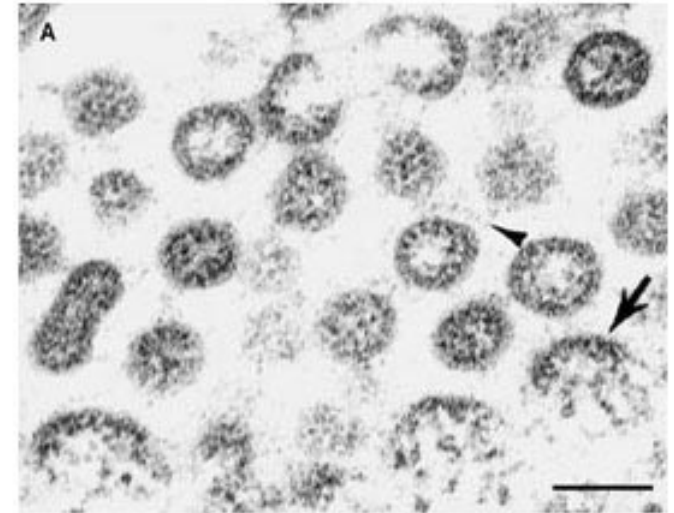
WHO meeting Geneva October 31st-November 1st

JF SALUZZO

Virus: Coronavirus
UTAH strain

CDC: 2 passages on AvP vero cells

Virus seed at CDC



PROCESS

Vero cell expansion:

2, 10, 28, 180 L fermentors

Virus infection:

1500 L fermentor

Crude Harvest

Filtration

Concentration. Inactivation. Purification

Final product adjuvanted.

CRITICAL ISSUES

Safety

SARS-associated coronavirus will be handled in accordance with:

- CDC interim laboratory biosafety guidelines for handling and processing specimens associated with SARS

The human coronavirus will be handled in BSL-3 facilities with BSL-3 work practices

Laboratory workers should wear protection equipment including personal powered air-purifying respirators (PAPRs) equipped with high efficiency particulate air (HEPA) filters

Aventis Pasteur



CRITICAL ISSUES

- Assay development including ELISA test for antigen quantification (batch release)
- Genomic quantification by RT-PCR, demonstration of viral inactivation
- **The design and conduct of immunogenicity and dose-finding studies in relevant animal models**
The design and conduct of studies to determine the need for, and optimization of, an adjuvant
Studies to establish an appropriate formulation for the inactivated coronavirus-SARS vaccine

CRITICAL ISSUES

- Development of a practical animal model for pre-clinical testing that would accurately mimic the disease and would be used for Challenge Studies, thereby utilizing the FDA Animal Rule to expedite development
- Demonstration in the animal model that prior exposure to infection or immunization with an inactivated vaccine does not adversely impact the clinical course following a subsequent infection
- Demonstration that the correlate of protection is associated with the production of neutralizing antibodies and that our vaccine adequately stimulates these antibodies