How can pan-Sarbecovirus vaccines be rapidly developed and evaluated?

Challenges: > Expanding breadth across all Sarbeco-CoVs in the presence of pre-existing SARS-CoV-2 responses
Challenges: > Durability of protective immunity
Challenges: > Ensuring a high safety profile
Response to Variants after they emerge

Evolution of variants ‘within SARS-CoV-2 genogroup’

- Design Vaccine Antigen Payloads that protect from broadly divergent virus variants
- Design stable, potent VAPs that cover multiple strains of existing viral threats

Prevention of Emergence

Spill-Over Events: Future Pandemics

- Proactive “Pre-Pandemic Vaccination”
  - Create broad, stable VAPs that encompass species “spill-over” over scenarios
  - Work with governments, pharma, NGOs to ready VAPs to manufacturers to shave months off deployment timelines
How can pan–Sarbecovirus vaccines be rapidly developed

The DIOSynVax Antigen Pipeline

Currently, it takes 3-6 months to develop a VAP, depending on virus type and breadth of coverage. Efficiency gains over time should reduce this.

However, because our process targets the **proactive** and the **broad**, the speed of VAP production is less of an issue than for traditional antigen payload approaches.

**Breadth of Protection**
- Broad 'seasonal' booster ability, negating need to react to strain circulation and increasing efficacy

**Proactive**
- No requirement for strain to exist before preparing vaccine, creating a future opportunity to achieve true pandemic preparedness & decreasing timeline to vaccine availability

Innovating **Vaccine Antigen Payload** design
How can pan-Sarbecovirus vaccines be rapidly evaluated

Animal models

- Rapid dose escalation via safety outcomes to test multiple doses before proceeding to larger phase 2/3 trials
- MHRA have been prepared to rapidly advise, input and consider pragmatic trial design to ensure safety and evaluation in a rapidly evolving pandemic – flexibility and innovation that has not occurred elsewhere

Human Trials

- Group 1: 0.2mg
- Group 2: 0.4mg
- Group 3: 0.8mg
- Group 4: 1.2mg
WHO meeting on COVID-19 Vaccines
pan-Sarbeco Vaccines

Panel Discussion

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