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A platform study to characterize respiratory challenge agents in healthy male and female adult participants

Submission date
04/12/2024

Recruitment status
Recruiting

Registration date
20/01/2025

Overall study status
Ongoing

Last Edited
20/01/2025

Condition category
Infections and Infestations

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[X] Record updated in last year

Plain English summary of protocol

Background and study aims
This is a study where healthy male and female adults aged between 18-64 years will be exposed to different respiratory viruses to understand how these viruses affect them. The aim is to find the right amount of virus that is both safe and can cause an infection, so it can be used in future research. The study will follow a specific protocol that applies to all virus tests, with additional details for each specific virus.

Who can participate?
This study is for healthy adults men and women aged 18 to 64 years as per ISA requirements. Participants must meet specific health criteria, which will be checked during a screening process.

What does the study involve:
This is an exploratory platform study to investigate the dose, pathogenicity, immunogenicity, transmission potential, and safety of multiple study interventions.
The master protocol will define the common study inclusion/exclusion criteria, common visits and data assessments. An Intervention-Specific Appendix (ISA) will define the specific requirements for the intervention being evaluated.
The platform study consists of the following phases:
1. Screening: Participants are screened before quarantine admission to confirm their suitability to take part in the study.
2. Quarantine: Participants will stay in the quarantine unit as defined in the ISA. This phase includes:
2.1. Quarantine admission
2.2. Participants receive the challenge agent
2.3. After receiving the virus: Participants will undergo a range of clinical assessments and safety monitoring for the entirety of their stay in the quarantine unit.
3. Outpatient phase: A follow-up visit will occur after virus inoculation as per ISA requirements.
Individual participation lasts up to 28 days, though some participants may need to follow up for a longer period depending on the virus they are exposed to.

What are the possible benefits and risks of participating?
Participants may help advance medical research into respiratory diseases. They will receive regular medical care and monitoring during the study.
As with any study involving viruses, there is a risk of contracting mild to moderate illness from the challenge agent. Participants will be closely monitored, and safety measures will be in place. Specific risks will vary depending on which virus they are exposed to, and these will be detailed in the study documentation.

Where is the study run from?
hVIVO Services Limited (UK)

When is the study starting and how long is it expected to run for?
August 2024 to October 2029

Who is funding the study?
hVIVO Services Limited (UK)

Who is the main contact?
1. Dr Nikolay Veselinski, n.veselinski@hvivo.com
2. Alex Mann, a.mann@hvivo.com

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Public

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Additional identifiers

EudraCT/CTIS number
Nil known

IRAS number
348061

ClinicalTrials.gov number
Nil known

Secondary identifying numbers
Nil known

Study information

Scientific Title
A platform study to characterize respiratory challenge agents in healthy male and female adult participants

Study objectives
1. Experimental infection with respiratory challenge agent(s) in healthy adults is safe and well tolerated.
2. Experimental infection with respiratory challenge agent(s) allows pathogen replication and signs and symptoms of disease to be measured and the election of a preferred dose for future interventional studies.

Ethics approval required
Ethics approval required

Ethics approval(s)

Approved 07/10/2024, London - London Bridge Research Ethics Committee (2 Redman Place, Stratford, E20 1JQ, United Kingdom; +44 (0)207 104 8229; londonbridge.rec@hra.nhs.uk), ref: 24/LO/0717

Study design
Single-centre open-label platform study

Primary study design
Interventional

Secondary study design
Randomized as per ISA

Study setting(s)
Other

Study type(s)
Other

Participant information sheet
Not available in web format

Health condition(s) or problem(s) studied
Influenza viruses, respiratory syncytial viruses (RSV), human metapneumoviruses (hmPV), rhinoviruses

Interventions
This is a single-centre platform study to characterize respiratory challenge agents in healthy male and female adult participants. A platform study is a type of study that is set up to investigate the disease type looking to evaluate multiple challenge agents. The study challenge agents being evaluated as part of the platform study include influenza (H3N2, H1N1, and B viruses), respiratory syncytial virus (RSV), human metapneumovirus (hMPV), and rhinoviruses (RVs).

The primary goal of this platform study is to characterize multiple challenge agents and establish the optimal dose of the respective agent that is safe and infectious in healthy adults. The platform study is defined by the master protocol, which governs the entire study and includes the common key study design elements for the interventions (challenge agent) being evaluated and the Intervention-Specific Appendix (ISA) supplements the master protocol by detailing the specific features of each challenge agent. Together, the master protocol and ISA provide the necessary information to conduct each intervention cohort. The platform study will not exceed a total of 1000 participants. While the platform study is an open-label study, blinding and randomization may be included in the ISA to prevent the occurrence of conscious and unconscious bias in the conduct and interpretation of the study, as relevant.

The platform study consists of the below phases:
1. Screening: Participants are screened prior to quarantine admission to confirm suitability to take part in the study.
2. Quarantine: Participants will stay in the quarantine unit as defined in the ISA. This phase includes:
2.1. Quarantine admission

2.2. Participants receive the challenge agent
2.3. Post receiving virus: Participants will undergo a range of clinical assessments and safety monitoring for the entirety of their stay in the quarantine unit.
3. Outpatient phase: A follow-up visit will occur post virus inoculation as per ISA requirements.

Intervention Type
Biological/Vaccine

Pharmaceutical study type(s)
Non-IMP

Phase
Not Specified

Drug/device/biological/vaccine name(s)
hMPV (human metapneumovirus), RSV Memphis (rhinovirus), RSV London (rhinovirus), influenza virus

Primary outcome measure
1. Occurrence of adverse events (AEs) related to the challenge agent from inoculation (Day 0) up to the Day 28 follow-up
2. Occurrence of serious adverse events (SAEs) related to the challenge agent from inoculation (Day 0) up to the Day 28 follow-up
3. Quantitative reverse transcriptase-polymerase chain reaction (qRT-PCR)-confirmed infection, defined as two quantifiable (≥ lower limit of quantification [LLOQ]) qRT-PCR measurements reported over four planned consecutive assessments within 48 hours

Secondary outcome measures
1. Area under the viral load-time curve (VL-AUC), as determined by qRT-PCR in respiratory samples
2. Peak load of challenge agent as defined by the maximum titer determined by qRT-PCR measurements in respiratory samples
3. VL-AUC of challenge agent as determined by quantitative culture measurements in respiratory samples
4. Peak load of challenge agent as defined by the maximum titer determined by quantitative culture measurements in respiratory samples

Timepoint is as per ISA, as all ISAs are not known and may vary this will not be able to be defined

Overall study start date
01/08/2024

Completion date
19/10/2029

Eligibility

Key inclusion criteria
Master Protocol Inclusion Criteria:
1. Adult male or female aged between 18 and 64 years

2. A total body weight ≥50 kg and body mass index (BMI) ≥18 kg/m2 and ≤35 kg/m2
3. In good health with no history, or current evidence, of clinically significant medical conditions, and no clinically significant test abnormalities that will interfere with participant safety
4. Documented medical history
5. Adherence to contraception requirements
6. Serosuitable for the challenge virus

ISA Specific Inclusion Criteria:
ISA#01 INCL01-01 Aged between 18 and 55 years, inclusive, on the day prior to signing the consent form

INCL01-02 Sero-suitable for the challenge agent:
ISA#02 INCL02-01 Aged between 18 and 55 years, inclusive, on the day prior to signing the consent form

INCL02-02 Sero-suitable for the challenge agent:
ISA#03 INCL03-01 Aged between 18 and 55 years, inclusive, on the day prior to signing the consent form

INCL03-02 Sero-suitable for the challenge agent

Participant type(s)
Healthy volunteer

Age group
Adult

Lower age limit
18 Years

Upper age limit
64 Years

Sex
Both

Target number of participants
1000

Key exclusion criteria
Master Protocol Exclusion Criteria:
1. History of, or currently active, symptoms or signs suggestive of upper or lower respiratory tract (LRT) infection within 4 weeks prior to the first study
visit.
2. Any history or evidence of any clinically significant or currently active disease.
3. Any participants who have smoked ≥10 pack years at any time.
4. Female participants who are breastfeeding, or have been pregnant within 6 months prior to the study, or have a positive pregnancy test at
any point during screening or prior to inoculation.
5. Any history of anaphylaxis and/or any history of severe allergic reaction.
6. Venous access deemed inadequate for the phlebotomy and cannulation demands of the study.

7. Lifetime history of anaphylaxis and/or a lifetime history of severe allergic reaction.
8. Significant abnormality of the nose, including loss of or alterations in smell or taste, nasal polyps, epistaxis, nasal or sinus surgery.
9. Recent vaccinations or intention to receive vaccination before the Day 28 follow-up visit.
10. Receipt of blood or blood products, or loss (including blood donations) of 550 mL or more of blood during the 3 months prior to the planned
inoculation or planned during the 3 months after the final visit.
11. Recent receipt of investigational drugs or challenge viruses.
12. Use or anticipated use during the conduct of the study of concomitant medications (prescription and/or non-prescription), including vitamins
or herbal and dietary supplements within the specified windows.
13. Positive drugs of abuse test, recent history or presence of alcohol addiction, excessive consumption of xanthine-containing substances or the presence of significant signs and symptoms of nicotine withdrawal on the first study visit.
14. A forced expiratory volume in 1 second (FEV1) <80%.
15. Positive HIV, hepatitis B virus, or hepatitis C virus test.
16. Presence of fever, defined as participant presenting with a temperature reading of ≥37.9°C on Day -2/-1 and/or pre-inoculation on Day 0.
17. Those employed or immediate relatives of those employed at hVIVO or the sponsor.
18. Any other reason, in the opinion of the investigator deems the participant unsuitable for the study

ISA-specific Exclusion Criteria:

ISA#01 EXCL01-01:
Prior inoculation with the same or closely related hMPV challenge agent

ISA#02 EXCL02-01:
Prior inoculation with the same or closely related RSV challenge agent

ISA#03 EXCL03-01:
Prior inoculation with the same or closely related RSV challenge agent

Date of first enrolment
24/09/2024

Date of final enrolment
24/09/2029

Locations

Countries of recruitment
England

United Kingdom

Study participating centre
hVIVO Services Limited
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Sponsor information

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Sponsor type
Research organisation

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Funder(s)

Funder type
Research organisation

Funder Name
hVIVO Services Limited

Results and Publications

Publication and dissemination plan
1. Peer-reviewed scientific journals
2. Internal report

3. Conference presentation
4. Publication on website

Intention to publish date
28/02/2030

Individual participant data (IPD) sharing plan
No plan for individual participant data sharing plan

IPD sharing plan summary
Not expected to be made available