

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

04 Dec 2023

### Phase 3 Clinical Trial to evaluate the Immunogenicity and Safety of Covid19 Recombinant RBD Protein Vaccine (Noora Vaccine) as a Booster Vaccine after injection of existing Vaccines in IRAN

#### Protocol summary

##### Study aim

Evaluation of Immunogenicity and safety of Noora vaccine as a booster.

##### Design

This clinical trial is designed as a hybrid (in the form of two separate trials) in phase 3: "First A randomized, double blind clinical trial with two parallel groups and a single center with a sample size of 300 people. Second A multicenter and single arm clinical trial comparing before and after injection of booster vaccine with a sample size of 10000 people.

##### Settings and conduct

The first part in the single center of Shahid Soleimani will be randomly double blind with parallel groups to check the immunogenicity. Blinding ratio will be 1: 2 and the volunteer, researcher and executive staff are unaware of the nature of the injection. The second ward will be in one of the 10 affiliated centers of Baqiyatallah Hospital, before and after. After injection, possible allergic reactions and other reactions will be recorded.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria include: over 18 years of age, candidates who have received two identical doses of the specified approved vaccine by MOH, and at least 3 months after the second dose, fully understand the provisions of the consent form and sign it. Exclusion criteria include: COVID19 infection in the past two months, quarantine, history of certain diseases, medication received in the last 3 months, receiving immunoglobulin or blood products in the previous 3 months, pregnant women Or breastfeeding or intending to pregnancy

##### Intervention groups

Including two intervention groups 1) Injection of 80 µg of recombinant RBD protein vaccine 2) Injection of a placebo dose

##### Main outcome variables

Primary Outcomes: Comparison of antibody levels in a sample of 300 volunteers on days 0 and 21 after injection. Cell immune response to booster dose and measurement of neutralized antibody level in 90 subgroups.

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20210620051639N3**

Registration date: **2021-12-23, 1400/10/02**

Registration timing: **prospective**

Last update: **2021-12-23, 1400/10/02**

Update count: **0**

##### Registration date

2021-12-23, 1400/10/02

##### Registrant information

##### Name

Jafar Salimian

##### Name of organization / entity

##### Country

Iran (Islamic Republic of)

##### Phone

+98 21 8755 4530

##### Email address

jafar.salimian@gmail.com

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2021-12-26, 1400/10/05

##### Expected recruitment end date

2022-04-04, 1401/01/15

**Actual recruitment start date**

empty

**Actual recruitment end date**

empty

**Trial completion date**

empty

**Scientific title**

Phase 3 Clinical Trial to evaluate the Immunogenicity and Safety of Covid19 Recombinant RBD Protein Vaccine (Noora Vaccine) as a Booster Vaccine after injection of existing Vaccines in IRAN

**Public title**

Phase 3 Clinical Trial to evaluate the Immunogenicity and Safety of Covid19 Recombinant RBD Protein Vaccine (Noora Vaccine) as a Booster Vaccine after injection of existing Vaccines in IRAN

**Purpose**

Prevention

**Inclusion/Exclusion criteria****Inclusion criteria:**

Age 18 years and older Candidates who have received two identical doses of the available vaccine (Sinopharm, CovIran Barakat, AstraZenka) and at least 3 months (at least 90 days) have passed since the second dose The candidate is able to fully understand the provisions of the informed consent form and sign it before entering the study

**Exclusion criteria:**

SARS CoV 2 infection (clinically significant or rtPCR document) Approved or suspected COVID 19 in the last two months Going through home quarantine due to suspicion of having an exposure to a patient with Corona History of severe allergic reactions Chronic kidney, liver and various malignancies Acute bacterial infection in the last 7 days Known cases of immunodeficiency, HIV, or autoimmune diseases Receiving immunosuppressive drugs or corticosteroids in the last 3 months Receiving immunoglobulin or blood products during the three months prior to vaccination Pregnant or Breastfeeding women or those who plan to become pregnant during the study period

**Age**

From **18 years** old

**Gender**

Both

**Phase**

3

**Groups that have been masked**

- Participant
- Care provider
- Investigator
- Data and Safety Monitoring Board

**Sample size**

Target sample size: **10300**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

In this study, Randomization process in immunogenicity assessment section is performed one step before the

onset of recruitment. For this purpose, 60 random block sequences with size 6 will be produced so that for every 4 volunteers receiving the recombinant vaccine, 2 volunteers will receive placebo. There is no randomization process in the safety assessment section which will be performed before and after.

**Blinding (investigator's opinion)**

Double blinded

**Blinding description**

The blinding process in the immunogenicity assessment section of this study, which will be performed on a sample size of 300 people, is performed in a double-blind manner. For this purpose, the placebo is exactly the same as the vaccine and is prepared by the manufacturer with the same volume, color and other specifications and will be labeled by an independent group based on randomization codes. Obviously, the researchers, the evaluation team of the volunteers, the vaccinators and the volunteers will be completely unaware of the type of product received. In the safety assessment section (on a sample size of 10000 people), the study will be open labeled and the blinding process will not be used.

**Placebo**

Used

**Assignment**

Parallel

**Other design features****Secondary Ids**

empty

**Ethics committees****1****Ethics committee****Name of ethics committee**

National Research Ethics Committee

**Street address**

13th floor, Block A, Ministry of health, Simaye Iran street, Shahrake ghods

**City**

Tehran

**Province**

Tehran

**Postal code**

1417993337

**Approval date**

2021-12-22, 1400/10/01

**Ethics committee reference number**

IR.NREC.1400.016

**Health conditions studied****1****Description of health condition studied**

Covid 19

**ICD-10 code**

U07.1

**ICD-10 code description**  
COVID 19, virus identified

## Primary outcomes

### 1

#### **Description**

The level of specific IgG antibody against RBD protein in days 0 and 21 after booster injection based on GMI, GMT and seroconversion rate (increase at least 4 times in antibody titer) in Shahid Soleimani Clinical Trial Center (sample of 300 people).

#### **Timepoint**

in days 0 and 21 after booster injection

#### **Method of measurement**

The level of specific IgG antibody against RBD protein based on GMI, GMT and seroconversion rate (increase at least 4 times in antibody titer) .

### 2

#### **Description**

Cellular immune response to booster dose based on measurement of IL 4 and INF $\gamma$  levels using ELISA method on days 0 and 21 after injection (subgroup of 90 people)

#### **Timepoint**

in days 0 and 21 after booster injection

#### **Method of measurement**

Cellular immune response to booster dose based on measurement of IL 4 and INF $\gamma$  levels using ELISA method .

### 3

#### **Description**

Measurement of neutralizing antibody level by neutralization test method Virus (subgroup of 90 people)

#### **Timepoint**

in days 0 and 21 after booster injection

#### **Method of measurement**

Measurement of neutralizing antibody level by neutralization test method Virus.

## Secondary outcomes

### 1

#### **Description**

Any reaction within 30 minutes after booster dose injection

#### **Timepoint**

within 30 minutes after booster dose injection

#### **Method of measurement**

Data collection and recording by the nurse or physician based on the participating condition within 30 minutes after injection at the vaccination site

### 2

#### **Description**

Occurrence of local adverse event (s) (pain, redness,

stiffness, swelling, skin rash, burning and itching) or systemic (fever, headache, chills, diarrhea) Vomiting, muscle pain, joint pain, shortness of breath, fatigue, allergic reactions, etc.) based on the severity, duration and maximum severity of the complication within 3 and 7 days after injection of the booster dose

#### **Timepoint**

within 3 and 7 days after injection of the booster dose

#### **Method of measurement**

Experts contact participants and record possible side effects.

### 3

#### **Description**

Incidence of adverse event (s) Systemic (fever, headache, chills, diarrhea, vomiting, muscle aches, joint pain, shortness of breath, fatigue, allergic reactions, etc.) based on the severity, duration and maximum severity of the complication within 28 days after booster dose

#### **Timepoint**

within 28 days after booster dose

#### **Method of measurement**

Experts contact participants and record possible side effects.

### 4

#### **Description**

Incidence of adverse event (s) Systemic (fever, headache, chills, diarrhea, vomiting, muscle aches, joint pain, shortness of breath, fatigue, allergic reactions, etc.) based on the severity, duration and maximum severity of the complication within 60 days after booster dose as a complementary outcome

#### **Timepoint**

within 60 days after booster dose

#### **Method of measurement**

Experts contact participants and record possible side effects.

### 5

#### **Description**

Level of IgG antibody specific against RBD protein in 3 and 6 months after booster dose injection and seroconversion rate (increase at least 4 times in antibody titer) in the vaccine group in Shahid Soleimani Clinical Trial Center (group of 200 people) as a complementary outcome

#### **Timepoint**

in 3 and 6 months after booster dose injection

#### **Method of measurement**

collecting blood samples of vaccine participants (200 people) in Shahid Soleimani Trial Center.

## Intervention groups

### 1

#### **Description**

Intervention Group: Injection of a dose of 80 micrograms of recombinant RBD protein vaccine intramuscularly

(deltoid muscle) in 10000 participants in affiliated centers of Baqiyatallah Hospital and 200 participants in Shahid Soleimani Clinical Trial Center

**Category**

Prevention

**2**

**Description**

Control group: Injection of a placebo intramuscularly (deltoid muscle) in 100 participants in Shahid Soleimani Clinical Trial Center

**Category**

Placebo

**Recruitment centers**

**1**

**Recruitment center**

**Name of recruitment center**

Shahid Soleimani clinical trial Center

**Full name of responsible person**

Dr. Hassan Abolghasemi

**Street address**

Shahid Ghassem Soleimani Clinical Trial Center, Baqiyatallah University of Medical Sciences, Shahid Nosrati Alley, South Sheykh Bahaei, Mollasadra Street, Tehran

**City**

Tehran

**Province**

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**Postal code**

1435916471

**Phone**

+98 21 8862 0903

**Email**

H.abolghasemi.ha@gmail.com

**2**

**Recruitment center**

**Name of recruitment center**

Shahid Saleh Mahdavi Majd Vaccination Cumulative center

**Full name of responsible person**

Mr. Hasan Kardari

**Street address**

Next to Hazrat Fatemeh Caring Center, Zafar Square, Shahrake Mahalati

**City**

Tehran

**Province**

Tehran

**Postal code**

1955877143

**Phone**

+98 21 8755 9645

**Email**

ahad389@yahoo.com

**3**

**Recruitment center**

**Name of recruitment center**

Shohadaie Salamat vaccination cumulative center

**Full name of responsible person**

Mr. Ali Heidari

**Street address**

Across from Post office, Mofateh street, shahid beheshti street

**City**

Tehran

**Province**

Tehran

**Postal code**

1531818811

**Phone**

+98 21 8853 1000

**Email**

aliahmadi@bmsu.ac.ir

**4**

**Recruitment center**

**Name of recruitment center**

Imam Hossein Boarding Clinic

**Full name of responsible person**

Mr. Ali Bakhtiary Zadeh

**Street address**

Imam Hossein University Residential Complex, Shahid Babaei Highway

**City**

Tehran

**Province**

Tehran

**Postal code**

1698744111

**Phone**

+98 21 8755 9645

**Email**

hakimeh1888@yahoo.com

**5**

**Recruitment center**

**Name of recruitment center**

Khavaran Cultural cumulative vaccination center

**Full name of responsible person**

Mr. Hossein Moradi

**Street address**

Khavaran Street, Khavaran Cultural Center

**City**

Tehran

**Province**

Tehran

**Postal code**

1797897511

**Phone**

+98 21 8755 0000

**Email**

Anabestianali1349@yahoo.com

## 6

### Recruitment center

**Name of recruitment center**

Azadi Stadium Vaccination Center

**Full name of responsible person**

Ms. Ashraf Roohi

**Street address**

East side of Azadi Stadium, Gate number 17

**City**

Tehran

**Province**

Tehran

**Postal code**

1494644614

**Phone**

+98 21 8755 9645

**Email**

ashraf.roohi1357@gmail.com

## Sponsors / Funding sources

### 1

#### Sponsor

**Name of organization / entity**

Bagheiat-allah University of Medical Sciences

**Full name of responsible person**

Dr. Jafar Salimian

**Street address**

Baqiyatallah University of Medical Sciences, Shahid Nosrati Alley, South Sheykh Bahaei, Mollasadra Street, Tehran,

**City**

Tehran

**Province**

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**Postal code**

1435916471

**Phone**

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**Email**

jafar.salimian@gmail.com

**Grant name****Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

**Title of funding source**

Bagheiat-allah University of Medical Sciences

**Proportion provided by this source**

100

**Public or private sector**

Public

**Domestic or foreign origin**

Domestic

**Category of foreign source of funding**

empty

**Country of origin****Type of organization providing the funding**

Academic

## Person responsible for general inquiries

### Contact

**Name of organization / entity**

Bagheiat-allah University of Medical Sciences

**Full name of responsible person**

Dr. Hassan Abolghasemi

**Position**

Professor

**Latest degree**

Subspecialist

**Other areas of specialty/work**

Hematology

**Street address**

Baqiyatallah University of Medical Sciences, Shahid Nosrati alley, Shiekh Bahaei st., Mollasadra st,

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**Email**

H.abolghasemi.ha@gmail.com

## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**

Bagheiat-allah University of Medical Sciences

**Full name of responsible person**

Dr. Hassan Abolghasemi

**Position**

Professor

**Latest degree**

Subspecialist

**Other areas of specialty/work**

Pediatric Hematology and Oncology

**Street address**

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## Person responsible for updating data

### Contact

**Name of organization / entity**

Bagheiat-allah University of Medical Sciences

**Full name of responsible person**

Dr. Hassan Abolghasemi

**Position**

Professor

**Latest degree**

Subspecialist

**Other areas of specialty/work**

Hematology

**Street address**

Baqiyatallah University of Medical Sciences, Shahid  
Nosrati alley, Shiekh Bahaei st., Mollasadra st,

**City**

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**Sharing plan****Deidentified Individual Participant Data Set (IPD)**

No - There is not a plan to make this available

**Justification/reason for indecision/not sharing IPD**

There is not a plan to make this available

**Study Protocol**

Yes - There is a plan to make this available

**Statistical Analysis Plan**

Yes - There is a plan to make this available

**Informed Consent Form**

Yes - There is a plan to make this available

**Clinical Study Report**

Yes - There is a plan to make this available

**Analytic Code**

Yes - There is a plan to make this available

**Data Dictionary**

Yes - There is a plan to make this available

**Title and more details about the data/document**

Data will be available to regulatory bodies and the ethics committee

**When the data will become available and for how long**

The protocol and results will become available to the public after completion of the study.

**To whom data/document is available**

The regulatory body and the ethics committee will have access to the study data. The monitoring team will have access to the study data during the conduct. DSMB will have access to the study data and results in predefined timelines and decides about the continuation of the study.

**Under which criteria data/document could be used**

With the permission of the sponsor and the approval of regulatory

**From where data/document is obtainable**

The study sponsor is responding to this request

**What processes are involved for a request to access data/document**

Relevant applications will be provided to the requesting researcher in the form of a joint project after review and approval by the relevant authorities. Normally between 3 to 5 working days

**Comments**