

Evaluation of immune modulation by beta-glucan, a soluble dietary fiber derived from reishi mushroom in healthy adult volunteers, a systemic clinical trial

Submission date 25/10/2022	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 31/10/2022	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 20/04/2023	Condition category Other	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

To study how beta glucan, a soluble fiber isolated from an edible mushroom (Reishi, *G. lucidum*) can help fortify a healthy person's immune system.

Who can participate?

Healthy volunteers aged 18 to 55 years.

What does the study involve?

The study involves a simple, systemic regimen of taking the intervention/placebo dose (orally) once a day. Two blood drawn at the beginning and conclusion of the study.

What are the possible benefits and risks of participating?

Participants may feel more energetic and have a stronger resistance when stressed/under the weather. Risk may include minor allergic reaction if allergic to mushrooms, however, this should be excluded during the inclusion period.

Where is the study run from?

Super Beta Glucan Inc., Biomedical Research Division (USA)

When is the study starting and how long is it expected to run for?

Who is funding the study?

Super Beta Glucan Inc., Biomedical Research Division (USA)

Who is the main contact?

Dr Sherwin Chen, sherwinc@gmail.com

Contact information

Type(s)

Scientific

Contact name

Dr Sherwin Chen

ORCID ID

<https://orcid.org/0000-0001-8117-0738>

Contact details

5 Holland, #109

Irvine

United States of America

92618

+1-949-878-5801

sherwinc@alumni.usc.edu

Additional identifiers**Protocol serial number**

IRB00001145

Study information**Scientific Title**

Randomized, placebo-controlled clinical study for the evaluation of immune modulation by Immulink MBG (Beta 1-3; 1-6 D-glucan; Poly-(1-6)- β -D-glucopyranosyl-(1,3)- β -D-glucopyranose) in healthy adult volunteers

Study objectives

To investigate the effect of orally administered Beta 1-3; 1-6 D-glucan derived from *G. lucidum* on various biomarkers and to explore the immunomodulatory mechanisms among a healthy adult population.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approved 01/03/2019, Glytheron IRB (24552 Raymond Way, Unit 54, Lake Forest, CA 92609, United States; +1 949-878-5800; IRB@glytheron.org), ref: NTUH00000336/ IRB00001145

Study design

Randomized double-blinded placebo-controlled multicenter clinical study

Primary study design

Interventional

Study type(s)

Other

Health condition(s) or problem(s) studied

The effect of orally administered Beta 1-3; 1-6 D-glucan in healthy volunteers

Interventions

Subjects were randomly assigned, through randomly permuted blocks generated by a random number generator (SPSS software version 22), to either the intervention group (200 mg of beta glucan in a capsule) or a placebo group (200 mg of dextrose monohydrate in a capsule) upon enrollment. Subjects began taking the intervention or placebo at Day 0, week 1 following completing the first venous peripheral blood sample collection. Subjects were provided with 84 days of supply and were instructed to take the test article on SID basis. Dosing was 200 mg of placebo or intervention dose (1 capsule) per day for consecutive 84 days (12 weeks). Subjects were instructed to self-administer the allotted dose once daily in the morning before or while having breakfast, for the entire 84 days. An interim safety monitoring will take place from Day 43 to Day 45 via phone calls when deemed necessary by the DSMB. At the end of the test article administration period (day 84, week 12), venous peripheral blood samples were collected to analyze for the following parameters including Total lymphocytes, CD3+, CD4+, CD8+, Natural Killer (NK) cell counts, NK cell mediated cytotoxicity, IgA, Alanine Aminotransferase (ALT), Aspartate Aminotransferase (AST), Creatinine, Red Blood Cell (RBC), Hemoglobin (HB), Hematocrit (HCT) and Platelet Counts.

Intervention Type

Supplement

Primary outcome(s)

Serum biomarkers including CD3+, CD4+, CD8+ T and NK cells counts, CD4/Cd8 Ratio, NK-cell cytotoxicity, immunoglobulin A (IgA) (Serum) using serum samples at baseline (Day 0, week 1) and Day 84, week 12

Key secondary outcome(s)

Alanine Aminotransferase (ALT), Aspartate Aminotransferase (AST), Creatinine, Red Blood Cell (RBC), Hemoglobin (HB), Hematocrit (HCT) and Platelet Counts using serum samples at baseline (Day 0, week 1) and Day 84, week 12

Completion date

08/01/2020

Eligibility

Key inclusion criteria

1. Male and female (unpregnant) subjects between 18 and 55 years of age, inclusive.
2. Participants willing to refrain from taking any non-essential medication from the onset of the study until follow up evaluation, with the exception of medical emergency.

Participant type(s)

Healthy volunteer

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Total final enrolment

173

Key exclusion criteria

1. Participant who was not able to give adequate informed consent; without the legal ability to act; who lack sufficient understanding or capacity to make or communicate responsible decisions.
2. Participants who were unable to adhere to the study protocols.
3. Participants participated in any other research study.
4. Participants who were current smoker or tobacco related product user.
5. Women who are pregnant or nursing.
6. Participants with status asthmaticus.
7. Participants with uncontrolled hypertension, peripheral vascular disease, hepatic diseases (with or without abnormal liver enzymes), or history of hyponatremia or hyperthermia.
8. Participants with evidence or history of significant hematological, endocrine, cerebrovascular, cardiovascular, coronary, pulmonary, renal gastrointestinal, immunocompromising, or neurological disease, including seizure disorder.
9. Participants who have had organ transplantation(s), under treatments of immunosuppressant medications, diagnosed with cancer or any other malignancy, or type I/II diabetes mellitus.
10. Participants who have had any life threatening allergic event in the past.
11. Participants or have allergy events to dextrose monohydrate.
12. Participants taking medications, mainly glucocorticoids.

Date of first enrolment

30/03/2019

Date of final enrolment

29/08/2019

Locations

Countries of recruitment

Taiwan

Study participating centre

TYB Biomedical Research Center

No. 2, Ln. 315, Sec. 2

Zhongshan Rd.

Zhonghe Dist.

New Taipei City
Taiwan
235072

Sponsor information

Organisation

Super Beta Glucan Inc., Biomedical Research Division

Funder(s)

Funder type

Industry

Funder Name

Super Beta Glucan Inc., Biomedical Research Division

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated and/or analyzed during the current study will be published as a supplement to the subsequent results publication

IPD sharing plan summary

Published as a supplement to the results publication

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		03/02/2023	20/04/2023	Yes	No