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A study on whether a natural sulforaphane supplement can boost glutathione levels

Submission date
21/02/2025

Recruitment status
Suspended

Registration date
24/02/2025

Overall study status
Completed

Last Edited
19/06/2025

Condition category
Other

[X] 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
Glutathione is an important antioxidant that helps protect cells from damage and supports overall health. This study aims to investigate whether taking a supplement containing glucoraphanin and myrosinase can increase glutathione levels in middle-aged adults.

Who can participate?
Healthy adults aged 40 to 65 years who do not smoke, drink excessively, or take antioxidant supplements. Participants must not have any major health conditions that affect glutathione levels.

What does the study involve?
Participants will be randomly assigned to take either a glucoraphanin and myrosinase supplement or a placebo every day for 30 days. Blood samples will be taken before and after the trial to measure glutathione levels. The study is double-blind, meaning neither participants nor researchers will know who is receiving the supplement or placebo.

What are the possible benefits and risks of participating?
There is no guaranteed benefit but participants may experience increased glutathione levels, which could support antioxidant function. The supplement is naturally derived from broccoli. Risks are minimal, but some participants may experience mild digestive discomfort.

Where is the study run from?
DoNotAge.org (UK)

When is the study starting and how long is it expected to run for?
February 2025 to October 2025

Who is funding the study?
DoNotAge.org (UK)

Who is the main contact?
Alan Graves, alan.graves@donotage.org

Contact information

Type(s)
Public

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Scientific, Principal investigator

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Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

ClinicalTrials.gov (NCT)
Nil known

Protocol serial number
SB1

Study information

Scientific Title
Evaluating the impact of a glucoraphanin and myrosinase supplement on glutathione levels: a randomized, placebo-controlled trial

Study objectives

Supplementation with a sulforaphane-boosting product for 30 days will increase blood glutathione levels in middle-aged adults compared to a placebo.

Ethics approval required
Ethics approval not required

Ethics approval(s)
Ethics approval not required, confirmed by the Medical Research Council and NHS Health Research Authority

Study design
Single-centre interventional double-blinded randomized placebo-controlled trial

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Effects of glucoraphanin and myrosinase supplementation on glutathione levels in middle-aged adults

Interventions
This study is a randomized, double-blind, placebo-controlled trial investigating the effects of glucoraphanin and myrosinase supplementation on glutathione levels in middle-aged adults. Participants will be randomly assigned (1:1) using computer-generated randomisation to receive either a daily dose of 460 mg (two capsules) of glucoraphanin and myrosinase supplementation (SulforaBoost®) or a placebo for 30 days. Blood samples will be collected at baseline and after 30 days to measure glutathione levels. The intervention will be administered orally, and compliance will be monitored through participant self-reporting and supplement count. The study aims to determine whether glucoraphanin and myrosinase supplementation significantly increases glutathione levels compared to placebo.

Intervention Type
Supplement

Primary outcome(s)
Glutathione levels measured using blood analysis at baseline (Day 0) and after 30 days of supplementation

Key secondary outcome(s))
There are no secondary outcome measures

Completion date
31/10/2025

Eligibility

Key inclusion criteria
Aged 40-65 years

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
40 years

Upper age limit
65 years

Sex
All

Key exclusion criteria
1. Individuals younger than 40 or older than 65 years
2. Current use of glucoraphanin, myrosinase, or sulforaphane-containing supplements
3. Diagnosed metabolic or chronic diseases affecting glutathione levels (e.g., diabetes, liver disease)
4. Use of antioxidant supplements (e.g., NAC, glutathione, vitamin C, or E) within the past 30 days
5. Smoking or excessive alcohol consumption (>14 units per week)
6. Known allergies to cruciferous vegetables or supplement ingredients
7. Participation in another clinical trial within the past 3 months
8. Pregnancy or breastfeeding

Date of first enrolment
01/03/2025

Date of final enrolment
30/06/2025

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
DoNotAge.org Research Centre
United Kingdom
DE24 8LZ

Sponsor information

Organisation
DoNotAge.org

Funder(s)

Funder type
Research organisation

Funder Name
DoNotAge.org

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated and analyzed during the current study will be available upon request from Alan Graves (alan.graves@donotage.org). Data will include anonymized participant-level information on glutathione levels before and after supplementation. The data will become available after publication and will be shared with researchers upon request, subject to ethical and legal considerations. Consent for data sharing will be obtained from participants, and all shared data will be fully anonymized. The dataset will not contain any personally identifiable information.

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes