

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

Submission date 21/02/2025	Recruitment status Suspended	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 24/02/2025	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 19/06/2025	Condition category Other	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> 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

Contact name

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Additional identifiers

Clinical Trials Information System (CTIS)

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