ISRCTN17314414 https://doi.org/10.1186/ISRCTN17314414

Glutathione absorption and health outcomes study

Submission date	Recruitment status	[X] Prospectively registered
02/10/2026	Not yet recruiting	[_] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
09/10/2026	Ongoing	[_] Results
Last Edited	**Condition category**	[_] Individual participant data
07/10/2026	Nutritional, Metabolic, Endocrine	[X] Record updated in last year

Plain English summary of protocol
Not provided at time of registration

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Study information

Scientific Title
Effect of oral glutathione on glutathione status and liver function in adults: a randomized, double-blind, placebo-controlled trial

Acronym
RHOGLO

Study objectives

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 07/09/2026, Bellberry Human Research Ethics Committee (Level 1, 196 Greenhill Road, South Australia, Eastwood, 5063, Australia; +61(8)83613222; bellberry@bellberry.com.au), ref: 2026-07-1294

Primary study design
Interventional

Allocation
Randomized controlled trial

Masking
Blinded (masking used)

Control
Placebo

Assignment
Parallel

Purpose
Treatment

Study type(s)

Health condition(s) or problem(s) studied
Adults with poor diet and/or regular alcohol intake

Interventions
Participants are randomised 1:1 using computer-generated randomisation (sealedenvelope.com), with sequential numbered product assignment to the below treatments:
- Active arm: Oral liposomal glutathione 500 mg (4 mL liquid), once daily for 8 weeks.

- Placebo arm: Matched oral placebo liquid (no active ingredient), 4 mL once daily for 8 weeks. Both products are taken at home in identical packaging.

Intervention Type
Supplement

Primary outcome(s)
1. Glutathione status, assessed by blood concentrations of reduced glutathione (GSH), oxidised glutathione (GSSG) and the GSH:GSSG ratio, measured using ELISA at baseline, week 4 and week 8

Key secondary outcome(s)
1. Liver function biomarkers, including alanine transaminase (ALT), aspartate transaminase (AST), alkaline phosphatase (ALP), gamma-glutamyl transferase (GGT), total bilirubin, and albumin concentrations, measured using liver function testing (LFT) involving clinical chemistry analysis of serum samples using an automated biochemical analyser for ALT, AST, ALP, and GGT, and colorimetric assays for bilirubin and albumin, at baseline, week 4 and week 8

2. Oxidative damage, assessed via urinary F2-isoprostanes and creatinine quantification, measured using ELISA kits at baseline, week 4 and week 8

3. Inflammatory markers assessed via serum high-sensitivity C-reactive protein (hs-CRP) measured using an automated clinical chemistry analyser at baseline, week 4 and week 8

4. Patient-Reported Outcomes, including Fatigue and energy, global health and wellbeing, sleep quality, perceived stress and clinical global impression, measured using the PROMIS Fatigue (Short Form), 12-Item Short-Form Health Survey (SF-12), PROMIS Sleep Disturbance, Perceived Stress Scale (PSS-10) and the Patient Global Impression of Change (PGIC), respectively, at baseline, week 4 and week 8

5. Safety, assessed via electrolytes/liver function tests (E/LFT) and full blood count (FBC), measured using a blood test at baseline, week 4 (E/LFT only) and week 8

6. Incidence and severity of adverse events (AEs) measured using monitoring and recording adverse events (AEs), at continuous points from baseline to week 8

Completion date
30/09/2027

Eligibility

Key inclusion criteria
1. Adults aged 30-70 years
2. Generally healthy
3. BMI 22-35.0 kg/m2
4. Report regular alcohol consumption (7-21 standard alcoholic drinks per week) and/or demonstrate poor diet quality based on the Food Frequency Questionnaire (FFQ) (score greater than or equal to 12) over the previous 2 months
5. Have stable lifestyle habits
6. Able to provide informed consent
7. Agree to not participate in another clinical trial while enrolled in this trial

8. Agree not to change current diet, alcohol intake, and activity during entire study period
9. Females using an accepted form of birth control (e.g. oral contraceptive)

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
30 Years

Upper age limit
70 Years

Sex
All

Total final enrolment
0

Key exclusion criteria
1. Have a serious illness e.g. mood disorders such as depression, anxiety or bipolar disorder, neurological disorders such as MS, heart conditions, kidney disease, known liver disease or clinically significant hepatic disorder, significant inflammatory, metabolic or systemic disease
2. Have an unstable illness e.g. diabetes and thyroid gland dysfunction
3. Current malignancy (excluding Basal Cell Carcinoma) or chemotherapy or radiotherapy treatment for malignancy within the previous 2 years
4. Currently taking Coumadin (Warfarin), Heparin, Dalteparin, Enoxaparin or other anticoagulation therapy including low dose aspirin
5. Recent use of glutathione, N-acetyl cysteine (NAC), or vitamin C supplements (5,000 mg per week) in the past 1 month.
6. Active smokers, nicotine use or drug (prescription or illegal substances) abuse
7. Alcohol dependence or treatment for alcohol use disorder
8. Pregnant or lactating women
9. Allergic to any of the ingredients in active or placebo formula
10. Participants who are currently participating in any other clinical trial or who have participated in any other clinical trial during the past 1 month
11. Any condition which in the opinion of the investigator makes the participant unsuitable for inclusion

Date of first enrolment
11/01/2027

Date of final enrolment
31/07/2027

Locations

Countries of recruitment

Australia

Study participating centre
RDC Clinical
Fortitude Valley
Australia
4006

Sponsor information

Organisation
RDC Global

Organisation
RHO Nutrition

Funder(s)

Funder type

Funder Name
Rho Nutrition

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available