Protein for muscle recovery after exercise

No registrations found.

Ethical review	Positive opinion
Status	Recruiting
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON27140

Source
NTR

Brief title
PRIME

Health condition

Muscle function

Sponsors and support

Primary sponsor: NIZO food research
Source(s) of monetary or material Support: Provincie Gelderland (Eat2Move); FrieslandCampina Innovation Centre; Stichting Kernhem; NIZO

Intervention

Outcome measures

Primary outcome

isokinetic MVC defined as peak force at an angular velocity of 180°/s, as determined by dynamometry of the upper leg, before and immediately after, 3h after, and 1, 2 and 3 days after eccentric exercise

Secondary outcome

Isokinetic MVC defined as peak force at an angular velocity of 90°/s, determined by dynamometry of the upper leg, before and immediately after, 3h after, and 1, 2 and 3 days after eccentric exercise
 Isometric MVC defined as peak force at a knee angle of 60° determined by dynamometry of the upper leg, before and immediately after, 3h after, and 1, 2 and 3 days after eccentric exercise
 Jump height assessed by vertical countermovement jump before and immediately after, 3h after, and 1, 2 and 3 days after eccentric exercise.
 Thigh circumference according to ISAK standards.
 Delayed onset muscle soreness (DOMS) assessed by VAS (100 mm) at baseline, immediately after and at 3, 24, 48, 72 and 96h post exercise.
Change in biomarkers of inflammation and immune function

Study description

Background summary

Delayed onset muscle soreness (DOMS) develops 24-48 hours after strenuous exercise biased toward eccentric (muscle lengthening) muscle actions and is a symptom of exercise-induced muscle damage. Soreness is accompanied by a prolonged strength loss, a reduced range of motion, and elevated levels of muscle damage markers in the blood. Reported study results are not consistent with respect to the acute benefits of protein supplementation on reductions in muscle damage and enhanced recovery of muscle function. We hypothesize that supplementation with whey protein is efficacious in improving recovery following eccentric exercise when given in the days before and after the exercise.

Study objective

Whey protein supplementation during the days before and after muscle-damaging eccentric exercise improves recovery of muscle strength, compared to placebo

Study design

Before and immediately after, 3h after, and 1, 2 and 3 days after eccentric exercise

Intervention

A whey protein supplement and an isocaloric placebo supplement, starting 4 days before muscle damaging exercise

Contacts

Public
NIZO
Alwine Kardinaal

+31615909911
Scientific
NIZO
Alwine Kardinaal

+31615909911

Eligibility criteria

Inclusion criteria

Substantial
 Male
 Age ≥18 and ≤35 years.
 BMI ≥18.5 and ≤27.5 kg/m2
 Healthy as assessed by the NIZO lifestyle and health questionnaire.
 Recreationally active, defined as performing physical activities on a recreational basis for a maximal duration of 5 hours per week.
 Veins suitable for cannulation (blood sampling)
Procedural
 Having given written informed consent.
 Willing to comply with study procedures.
 Ability to follow Dutch verbal and written instructions.
 Availability of internet connection.
 Accept use of all encoded data, including publication, and the confidential use and storage of all data for 15 years.
 Accept disclosure of the financial benefit of participation in the study to the authorities concerned.

Exclusion criteria

Substantial
 Having a history of medical or surgical events that may significantly affect the study outcome, to be decided by the principal investigator.
 Participating in resistance exercise or exercise with a major eccentric component (e.g.

(trail) running, football, volleyball, basketball, track and field) in the last 6 months.
 Regular use of the following medication: corticosteroids, antihistamines, NSAID.
 Smoking.
 Regular use of protein supplements.
 Mental status that is incompatible with the proper conduct of the study
 A self-reported reported lactose intolerance, allergy or sensitivity to dairy ingredients
 Evidence of current excessive alcohol consumption (>21 units/week) or drug (ab)use, and not willing/able to stop this during the study.
 Reported slimming or medically prescribed diet
Procedural
 Participation in any clinical trial including blood sampling and/or administration of substances up to 30 days before Day 01 of this study
 Recent blood donation (<1 month prior to Day 01 of the study)
 Personnel of HAN, NIZO and FC, their partner and their first and second degree relatives

Study design

Design

Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Double blinded (masking used)
Control:	Placebo

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	01-03-2019
Enrollment:	40
Type:	Anticipated

IPD sharing statement

Plan to share IPD: No

Ethics review

Positive opinion

Date:	25-02-2019
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

ID: 45952
Bron: ToetsingOnline
Titel:

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL7550
CCMO	NL68027.072.18
OMON	NL-OMON45952

Study results