Plant proteins for muscle growth

Gepubliceerd: 27-06-2017 Laatst bijgewerkt: 15-05-2024

It is hypothesized that the ingestion of plant based proteins will result in a similar muscle protein synthetic response compared to animal based proteins.

Ethische beoordeling	Positief advies
Status	Werving gestopt
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON21457

Bron
Nationaal Trial Register

Verkorte titel
APPROS

Aandoening

Muscle metabolism

Protein

Ondersteuning

Primaire sponsor: Maastricht University Medical Center (MUMC+)
Overige ondersteuning: Top Institute of Food and Nutrition (TIFN)

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Primary study parameter is myofibrillar protein synthesis rate.

Toelichting onderzoek

Achtergrond van het onderzoek

Skeletal muscle mass maintenance is regulated by two main anabolic stimuli, food intake and physical activity. Dietary protein intake directly stimulates muscle protein synthesis rates and inhibits muscle protein breakdown. Therefore, the post-prandial muscle protein synthetic response to feeding plays a key regulatory role in skeletal muscle mass maintenance.

The capacity of dietary protein to stimulate post-prandial muscle protein accretion varies between protein sources. More than half of the total amount of dietary protein that is consumed by humans worldwide is of plant origin, with plant based proteins providing up to 80% of dietary protein consumed in less developed regions. Overall it is assumed that plant based proteins are less potent in stimulating post-prandial muscle protein synthesis. However, the anabolic properties of plant based protein sources have hardly been assessed. Therefore, this project will investigate the anabolic properties of plant based proteins.

Doel van het onderzoek

It is hypothesized that the ingestion of plant based proteins will result in a similar muscle protein synthetic response compared to animal based proteins.

Onderzoeksopzet

Blood and muscle samples will be collected at regular time intervals.

Onderzoeksproduct en/of interventie

Subjects will consume 30 g of protein in the form of a beverage.

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- Male

- Aged 18-35 y inclusive

- BMI 18.5 – 27.5 inclusive

- Healthy recreationally active

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- Females

- Wheat allergy

- Celiac disease

- Allergies to milk proteins

- Lactose intolerance

- Smoking

- Diagnosed diabetes

- Diagnosed metabolic or intestinal disorders

- A history of neuromuscular problems

- Any medications known to (or may) affect protein metabolism (i.e. corticosteroids, non-steroidal anti-inflammatories, or prescription strength acne medications).

- Participation in structured resistance exercise program

- Previous participation in a 13C amino acid tracer study within the last 1 year

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Gerandomiseerd
Blindering:	Dubbelblind
Controle:	Actieve controle groep

Deelname

Nederland

Status:	Werving gestopt
(Verwachte) startdatum:	23-05-2017
Aantal proefpersonen:	84
Type:	Werkelijke startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Nog niet bepaald

Ethische beoordeling

Positief advies

Datum:	27-06-2017

Soort: Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 50096
Bron: ToetsingOnline
Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL6364
NTR-old	NTR6548
CCMO	NL60500.068.17
OMON	NL-OMON50096

Resultaten