



SASTAV PROIZVODA

Amino kiseline

Osnovni sastojak preparata su aminokiseline u slobodnoj formi. Čini ga 9 esencijalnih aminokiselina - (EAA) koje se ne sintetišu u ljudskom telu i moraju se uneti hranom.

L-leucin (prisutan je u značajnim kolčinama da bi pokrenuo anabolizam)

L-izoleucine

L-valin

NAPOMENA - ove tri aminokiseline čine *Branched-Chain Amino Acids* (razgranati lanac) ili *BCAAs*

L-lizin-hidrohlorid

L-metionin

L-fenilalanin

L-treonine

L-triptofan

L-histidin

L-arginin

Prava funkcionalna i hemijska vrednost preparata je precizan međusobni odnos aminokiselina koje ga čine. [1]

Pored 9 esencijalnih aminokiseline imamo i dodatak L arginina koji deluje kao uslovno esencijalna ili semiesencijalna aminokiselina koja deluje kao katalizator ćelijskog preuzimanja drugih EAA i poboljšava njihov protok.

Efikasnost i molekularna težina

Za razliku od tradicionalnih celih proteina, aminokiseline u slobodnoj formi ne zahtevaju digestiju i razgradnju što obezbeđuje brži dotok do mišića.

Ovako precizno struktuisana formula aminokiselina je visoko potentna.

Zahteva samo malu dozu (3.6 g po porciji) da bi se izazvali značajniji efekti izgradnje mišića u poređenju sa efektima Whey proteina. [2]

Leucin je ključna EAA, ali kao sam nije dovoljan.

Leucin aktivira mTOR put, koji pokreće sintezu proteina, ali za njegov uspešan rad potrebno je da ćelija ima dostupne sve EAA. Bez njih, proces će biti neefikasan ili će se zaustaviti [3].

- Kako je nastao proizvod Oli-Muscle Protect koji predstavlja zaštićenu formaciju Reginator®? Reginator® je zaštićena jedinstvena formulacija aminokiselina kompanije Eight IP LLs (USA).

NASA je finansirala istraživanja dr Wolfe-a kako bi se razvila amino kompozicija koja održava mišiće astronauta snažnim tokom puta u svemir bez vežbanja.

Robert Wolf i saradnici su ispitivali *Transmembranski transport i unutrašnju kinetiku amino kiselina u skeletnoj mišićnoj masi kod ljudi*.

Oni su nakon 20 miliona dolara uloženi u istraživanje i razvoj i testiranja različitih kombinacija aminokiselina, razvili Reginator® (Oli-Muscle Protect) – patentirana, optimizovana mešavina aminokiselina za rast mišića.

Svaki izvor proteina sadrži različit profil aminokiselina.

Ključni faktor je odnos (ratio) aminokiselina unutar proteina.

Reginator® ne samo da sadrži esencijalne aminokiseline (EAA), već je i njihov profil visoko efikasan u stimulaciji sinteze mišićnih proteina, zahvaljujući optimizovanom, patentiranom profilu EAA. Za optimalnu sintezu proteina od ključne je važnosti da amino kiseline budu dostavljene u ćelije u odgovarajućim koncentracijama i odnosima.

POREĐENJE SA WHEY PROTEINOM I HRANOM

Na osnovu podataka iz studija koje su ispitivale stopu sinteze mišićnih proteina (FSR, *fractional synthetic rate*) između dve grupe ispitanika – jedne koja je konzumirala Whey protein i druge koja je primala formulaciju esencijalnih aminokiselina (Reginator®) – utvrđene su razlike u postprandijalnom anaboličkom odgovoru.

NAPOMENA - (FSR – fractional synthetic rate) - je mera brzine sinteze novih mišićnih proteina u mišićima, koja odražava koliko brzo mišići rastu ili se obnavljaju.

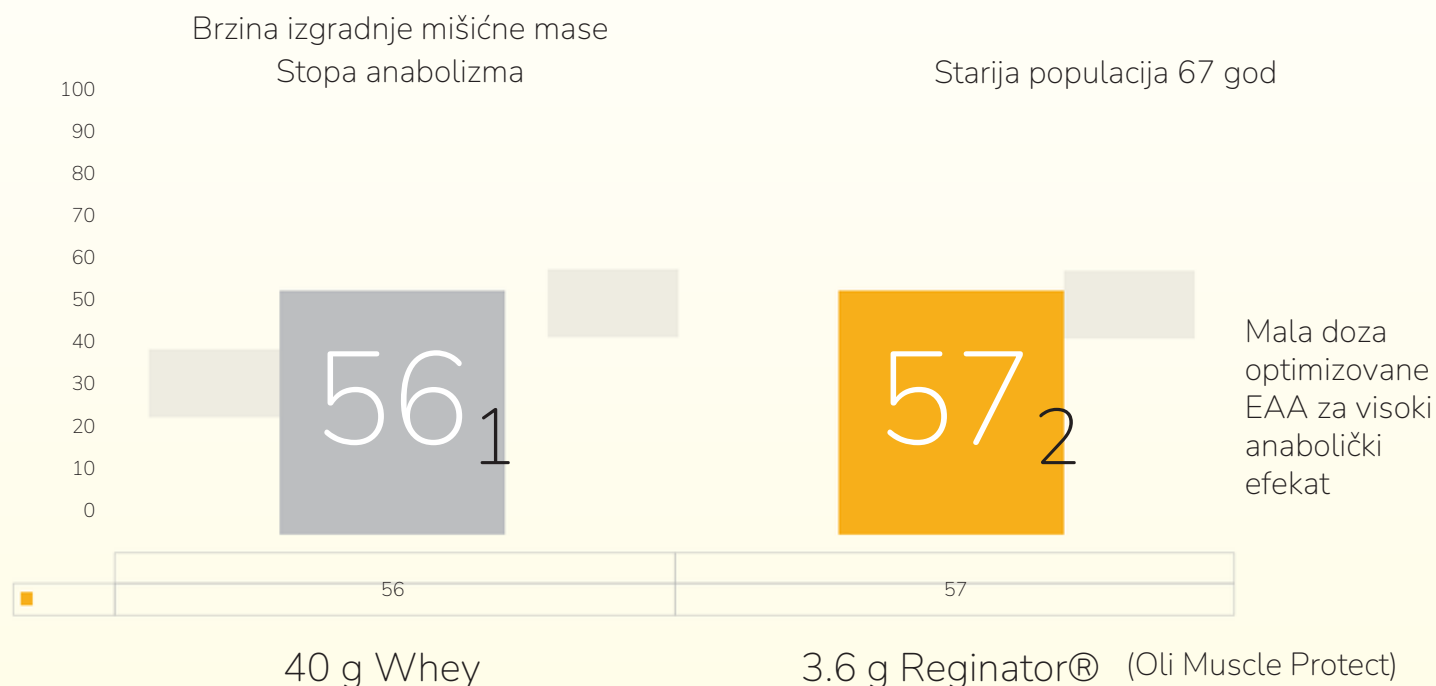
Grupa koja je konzumirala Whey protein pokazala je niže vrednosti Δ FSR, što ukazuje na slabiju stimulaciju sinteze mišićnih proteina nakon unosa proteina.

Nasuprot tome, grupa koja je primala Reginator® ostvarila je više vrednosti Δ FSR, što sugerise da ova formulacija esencijalnih aminokiselina dovodi do izražene stimulacije mišićne proteinske sinteze u poređenju sa Whey proteinom.

Na osnovu prikazanih nalaza može se zaključiti da primena 3,6 g Reginator® (Oli Muscle Protect) dovodi do povoljnijeg efekta na stimulaciju sinteze mišićnih proteina u poređenju sa 40 g Whey proteina, u ispitivanim uslovima. [4,5]

Ovi rezultati ukazuju da niske doze optimizovanih esencijalnih aminokiselina mogu izazvati snažan anabolički odgovor u skeletnom mišićnom tkivu.

1. Efikasnost Reginator® (Oli Muscle Protect)



*Različite studije koriste isti metod

3,6 g Reginator® esencijalnih aminokiselina stimuliše anabolički odgovor mišića uporediv sa 40 g Whey proteina kod starijih osoba.

Fernando AA, Williams BD, Stuart CA, Lane HW, Wolfe RR. JPEN 1995; 19:47-54.

AOC Witard • 2014 m J Clin Nutr. 2014 Jan;99(1):86-95. doi: 10.3945/ajcn.112.055517.

Paddon-Jones D, Sheffield-Moore M, Katsanos CS, Zhang XJ, Wolfe RR. Exp Gerontol 2006; 41:215:219.

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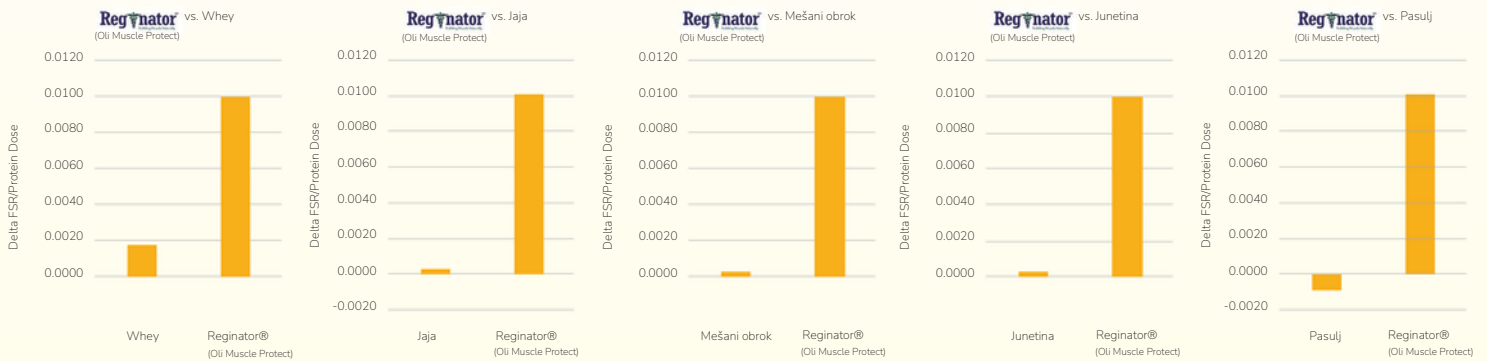
Stopa anabolizma - brzina kojim telo gradi tkiva, najčešće:

*mišiće (muscle protein synthesis)

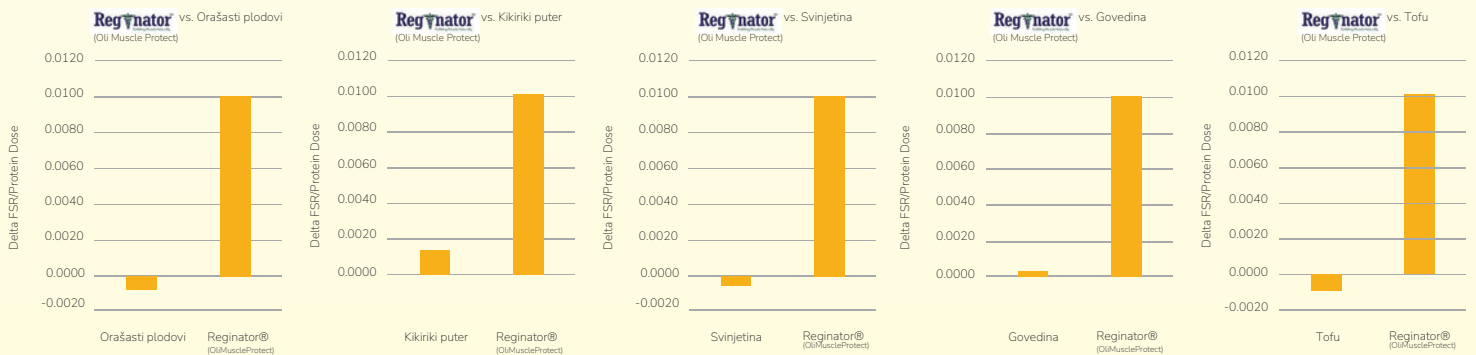
*proteine uopšte

2. Uticaj proteina na izgradnju mišićne mase u odnosu na različitu vrstu hrane

Još jedno istraživanje pokazuje da je Reginator® (Oli Muscle Protect) brži i efikasniji stimulator sinteze mišićnih proteina i da je superioran u odnosu na različite izvore proteina.



Nutrients doi: 10.3390/nu12123717 Essential Amino Acids and Protein Synthesis: Insights into Maximizing the Muscle and Whole-Body Response to Feeding David D Church¹, Katie R Hirsch¹, Sanghee Park^{2, 3}, Il-Young Kim^{2, 3}, Jess A Gwin^{4, 5}, Stefan M Pasiakos⁴, Robert R Wolfe¹, Arny A Ferrando¹



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Essential Amino Acids and Protein Synthesis: Insights into Maximizing the Muscle and Whole-Body Response to Feeding David D Church¹, Katie R Hirsch¹, Sanghee Park^{2, 3}, Il-Young Kim^{2, 3}, Jess A Gwin^{4, 5}, Stefan M Pasiakos⁴, Robert R Wolfe¹, Arny A Ferrando¹

SUPLEMENTACIJA LEUCINOM KOD STARIJIH OSOBA SA SARKOPENIJOM

Kod starijih osoba postoje povećane potrebe za proteinskim unosom jer je sinteza mišićnih proteina redukovana tokom starenja [6] i praćena je smanjenjem sinteze proteina u mišićnim ćelijama. [7] Pozitivni efekti viših količina proteina u ishrani na očuvanje nemasne mase tela su zabeleženi kod ovih osoba. [8]

Suplementacija leucinom ima blagotvorne efekte na brzinu sinteze mišićnih proteina, mišićnu masu i čistu telesnu masu kod starijih osoba sklonih sarkopeniji ili sa dijagnostikovanom sarkopenijom. Redovna fizička vežba zajedno sa suplementima sa nezamenljivim aminokiselinama (sa visokim sadržajem leucina) i/ili proteinima surutke zajedno sa vitaminom D poboljšava održavanje ili dobijanje mase skeletnih mišića i ukupne čiste mase kod starijih osoba sa sarkopenijom.

Važno je napomenuti da efekti fizičke vežbe i dijetetskih suplemenata deluju sinergistički.

ZAŠTO JE BITNA AMINOKISELINSKA SUPLEMENTACIJA TOKOM PROGRAMA GUBLJENJA TELESNE MASE (TM)

U kontekstu povećane prevalencije gojaznosti kod dece, adolescenata i odraslih širom sveta [9, 10], primenjene su različite strategije kao što su promena životnih navika, farmakološki tretmani i hirurške procedure.

Gubitak telesne mase predstavlja osnovu terapijskog pristupa u lečenju osoba sa gojaznošću jer može ublažiti ili potpuno rešiti metaboličke faktore rizika za dijabetes, koronarnu arterijsku bolest i karcinome povezane sa gojaznošću. Gubitak TM poboljšava fizičku funkciju, najverovatnije zbog smanjene masne mase.

Međutim, gubitak masne mase prati značajno smanjenje mišićne mase, posebno skeletnih mišića, čime se povećava rizik od sarkopenije [11, 12].

Najefikasnije očuvanje mišićne mase tokom perioda mršavljenja zahteva posebno prisustvo adekvatnih anaboličkih stimulusa [13]. Redovna fizička vežba, posebno trening snage i veći unos proteina od onog koji se preporučuje za opštu odraslu populaciju preporučuju se za osobe sa gojaznošću koje učestvuju u programima mršavljenja.

Vežbe izdržljivosti i vežbe sa otporom pomažu u očuvanju mišićne mase tokom gubitka TM, a vežbe sa otporom takođe poboljšavaju snagu mišića.

Na osnovu dostupnih dokaza može se zaključiti da terapiju usmerenu na smanjenje telesne mase, koja obuhvata hipokaloričnu ishranu sa adekvatnim, ali ne prekomernim unosom proteina, uz povećanje nivoa fizičke aktivnosti, naročito vežbi sa opterećenjem (vežbi otpora), treba preporučivati radi očuvanja mišićne mase, poboljšanja mišićne snage i unapređenja fizičke funkcije kod osoba sa gojaznošću.

Održavanje mišićne mase tokom procesa mršavljenja je veoma važno iz više razloga, a kliničke studije su potvrdile neke ključne koristi i preporuke:

Održavanje metaboličke aktivnosti: Mišići su aktivna tkiva koja sagorevaju kalorije čak i u mirovanju. Gubitak mišićne mase dovodi do smanjenja potrošnje energije u mirovanju (engl. *resting metabolic rate*, RMR), što može otežati održavanje postignute telesne mase i povećati rizik od ponovnog povećanja telesne mase nakon završetka redukcione dijeta.

Poboljšanje sastava tela: Očuvanje i povećanje mišićne mase tokom redukcije telesne mase doprinosi smanjenju procenta masnog tkiva, što predstavlja povoljniji zdravstveni i estetski ishod. Kliničke studije ukazuju da je gubitak predominantno masnog, a ne mišićnog tkiva, ključan za poboljšanje telesnog sastava.

Povećanje snage i funkcionalnog kapaciteta: Veća mišićna masa doprinosi poboljšanju mišićne snage, stabilnosti i funkcionalne sposobnosti, kao i smanjenju rizika od povreda, posebno kod starijih osoba.

Smanjenje rizika od metaboličkih bolesti: Očuvanje mišićne mase tokom mršavljenja povezano je sa povoljnijim metaboličkim profilom i nižim rizikom od razvoja metaboličkih poremećaja, uključujući dijabetes melitus tip 2, arterijsku hipertenziju i dislipidemiju.

Klinički podaci pokazuju da:

- Programi koji kombinuju kalorijsku restrikciju sa treningom otpora dovode do većeg očuvanja mišićne mase u poređenju sa intervencijama zasnovanim isključivo na redukciji energetskog unosa.
- Gubitak telesne mase uz očuvanje mišićne mase povezan je sa boljim kliničkim ishodima i održivijim dugoročnim rezultatima.
- Povećan unos proteina tokom perioda redukcije telesne mase doprinosi očuvanju mišićne mase.

Zaključak: Očuvanje mišićne mase tokom redukcije telesne mase predstavlja ključan faktor za postizanje efikasnijih, zdravstveno povoljnijih i dugoročno održivih rezultata, što je potvrđeno brojnim kliničkim studijama i aktuelnim preporukama koje naglašavaju značaj kombinacije nutritivne intervencije i fizičke aktivnosti [14].

Ko može da ima potrebu za dodatnim izvorom proteina:

- Osobe koje su na terapiji lekovima za mršavljenje
 - Pacijenti sa smanjenim apetitom usled uzimanja različitih terapija
 - Osobe na dijeti/kalorijskom deficitu:
 - Restriktivne dijetete
 - Detox program
 - Intermitentni fasting
 - U svim stanjima pothranjenosti
 - Neadekvatna vegetarijanska ishrana
 - Anoreksija
 - Tokom starenja nakon 40. godine
 - Osobe koje imaju nedovoljnu fizičku aktivnost
 - Osobe na rehabilitaciji i fizikalnoj terapiji
 - Kod dugotrajno hospitalizovanih osoba sa ograničenom pokretljivošću
 - Kod rekreativaca i sportista.
-
- Oli-Muscle Protect **patentirana, optimizovana mešavina aminokiselina koja omogućava održavanje normalne i povećanje mišićne mase.**
 - Oli-Muscle Protect **je razvijen od strane NASA za potrebe astronauta.**
 - Oli-Muscle Protect **je pogodan za decu stariju od 12 godina.**
 - **Oli Muscle Protect ima 31 kliničku studiju sa dokazima o efikasnosti proizvoda.**

Napomena:

Ove tvrdnjenisu evaluirane od strane Agencije za hranu i lekove (FDA).

Ovaj proizvod nije namenjen za dijagnostiku, lečenje ili prevenciju bilo koje bolesti.

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How to measure the effect

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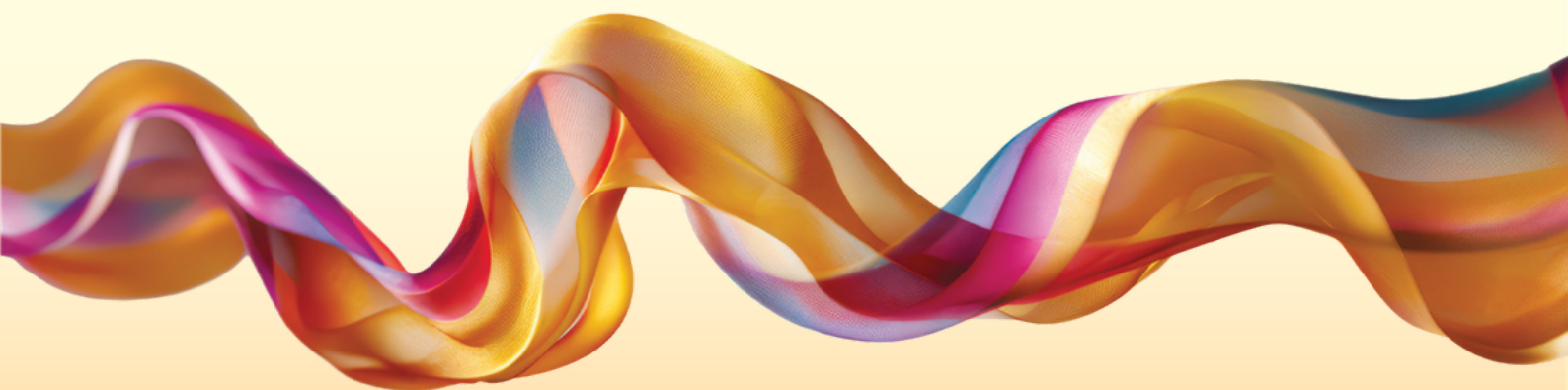
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