LEONIDAS LIFTS

NUTRITION PLAN

13-Week Phased Cut Protocol

Progressive Calorie Reduction // High Protein // Performance Fueling

"Discipline Is the Diet."

PHASE 1	→	PHASE 2	→	PHASE 3
2,300 cal		**2,000 cal**		**1,800 cal**
Weeks 1-8		Weeks 9-12		Week 13

BACKED BY 68 PEER-REVIEWED REFERENCES

PERSONALIZE YOUR MACROS

Use the Spartan FFMI Calculator at leonidaslifts.com — enter your height, weight, body fat %, and supplement/peptide status to get your exact macros tailored to your physique.

LEONIDASLIFTS.COM

PHASE OVERVIEW

13-WEEK CALORIC PERIODIZATION STRATEGY

PHASE 1
DEFICIT ENTRY

2,300
KCAL / DAY

P: 210g C: 220g F: 65g
37/38/25%
Weeks 1-8

PHASE 2
DEEP CUT

2,000
KCAL / DAY

P: 210g C: 165g F: 55g
42/33/25%
Weeks 9-12

PHASE 3
FINISHING STRIKE

1,800
KCAL / DAY

P: 200g C: 140g F: 50g
44/31/25%
Week 13

WEEK-BY-WEEK CALORIE SCHEDULE

WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7
2,300	2,300	2,300	2,300	2,300	2,300	2,300

WK 8	WK 9	WK 10	WK 11	WK 12	WK 13
2,300	2,000	2,000	2,000	2,000	1,800

RESEARCH: WHY PROGRESSIVE CUTS WORK

Progressive caloric reduction is supported by the MATADOR protocol and adaptive thermogenesis research. Constant deficits lose effectiveness as the body adapts — phased cuts stay ahead of metabolic slowdown. Helms et al. (2014, Int J Sport Nutr Exerc Metab) established the foundational rule: target 0.5-1.0% body weight loss per week to maximize muscle retention. Rosenbaum & Leibel (2010, Int J Obes) identified adaptive thermogenesis as a coordinated set of metabolic, neuroendocrine, and autonomic responses defending body fat stores. The MATADOR study (Byrne et al., 2018, Int J Obes) demonstrated that alternating deficit/maintenance blocks produced less adaptation and greater fat loss than continuous restriction. Jorgensen et al. (2018, Br J Nutr) showed RMR suppression begins at as little as 5% body weight loss, reinforcing the need for phased approaches. For a 200 lb lifter: 0.5%/wk = ~1 lb/wk (conservative), 1.0%/wk = ~2 lbs/wk (upper bound).

PHASE 1 — DEFICIT ENTRY

WEEKS 1-8 | 2,300 KCAL/DAY

PROTEIN 210g (37%)

CARBS 220g (38%)

FAT 65g (25%)

DAILY MEAL TEMPLATE

~2,260 cal actual

1 MEAL 1 — BREAKFAST

1.5 cups egg whites + 1 whole egg, 1/2 cup oatmeal (dry), 1 banana

P: 35g C: 55g F: 8g | ~430 cal

2 MEAL 2 — MID-MORNING

1 scoop whey protein, 1 apple, 10 almonds

P: 30g C: 30g F: 8g | ~310 cal

3 MEAL 3 — LUNCH

8oz chicken breast, 1 cup white rice (cooked), broccoli

P: 50g C: 45g F: 5g | ~425 cal

4 MEAL 4 — PRE-WORKOUT

6oz ground turkey (93% lean), 1/2 cup sweet potato, spinach

P: 35g C: 30g F: 10g | ~350 cal

5 MEAL 5 — POST-WORKOUT

1.5 scoops whey protein, 1 banana, 8oz Oikos Triple Zero yogurt

P: 45g C: 45g F: 4g | ~395 cal

6 MEAL 6 — DINNER

6oz tilapia or flank steak, 1/2 cup rice, vegetables, hot sauce

P: 35g C: 25g F: 12g | ~350 cal

WHY THESE FOODS

- Egg whites: PDCAAS = 1.0 — the highest possible protein quality score (FAO, 2013). Complete essential amino acid profile with high bioavailability.
- Chicken breast: ~31g protein per 100g with minimal fat (~3.5g). The lean protein gold standard for body recomposition (USDA FoodData Central).
- White rice over brown (post-workout): Higher GI (~72 vs. ~50-68 for brown) enables rapid glycogen replenishment post-training (Atkinson et al., 2008).
- Oikos Triple Zero: Casein-dominant protein provides sustained amino acid release. Contains probiotics supporting gut health during caloric restriction.

RESEARCH: LEUCINE THRESHOLD & PROTEIN DISTRIBUTION

The leucine threshold for maximal MPS is 3-4g per meal, equivalent to ~25-35g of quality protein. Mamerow et al. (2014, J Nutr) demonstrated that evenly distributing protein across meals stimulated ~34% more 24-hour MPS than a skewed pattern with the same total intake. This 6-meal template ensures each meal hits the leucine threshold, maximizing the anabolic response during caloric restriction. Stark et al. (2012, JISSN) confirmed protein timing across 4-6 daily feedings optimizes nitrogen balance and MPS during energy deficit.

PHASE 1 — DEFICIT ENTRY (CONTINUED)

FOOD SCIENCE & NUTRIENT TIMING

FOOD SCIENCE: EVERY INGREDIENT EARNS ITS PLACE

Whole Eggs (Meal 1)

Whole eggs produce ~40% greater MPS than equivalent protein from egg whites alone (van Vliet et al., 2017, Am J Clin Nutr). The yolk lipids enhance intramuscular amino acid delivery. One whole egg + egg whites gives the best of both worlds: high volume protein with enhanced MPS signaling.

Oatmeal (Meal 1)

Beta-glucan fiber slows carbohydrate absorption, providing sustained energy through the morning (Wolever et al., 2010, J Nutr). Supports muscle glycogen stores for afternoon training sessions.

Bananas (Meals 1 & 5)

Comparable to sports drinks for exercise fueling (Nieman et al., 2012, PLoS One). ~422mg potassium per medium banana supports electrolyte balance during deficit-induced fluid shifts.

Whey Protein (Meals 2, 5)

Rapidly absorbed, high in leucine (~2.5g per scoop), and strongly stimulates MPS (Tang et al., 2009, J Appl Physiol). Post-workout timing capitalizes on the enhanced anabolic sensitivity window.

Broccoli (Meals 3, 6)

Contains DIM (diindolylmethane), which modulates estrogen metabolism by increasing the favorable 2-OHE1/16a-OHE1 ratio (Dalessandri et al., 2004, Nutr Cancer). Valuable during caloric restriction when hormonal optimization matters most.

Spinach (Meal 4)

Dietary nitrates convert to nitric oxide, improving exercise performance and oxygen efficiency (Larsen et al., 2007, Acta Physiol). Pre-workout placement maximizes training benefit.

Sweet Potato (Meal 4)

Moderate GI (~64) provides sustained energy for training. Rich in beta-carotene (8,509 mcg/100g) supporting immune function during caloric restriction (Atkinson et al., 2008, Diabetes Care).

Flank Steak / Beef (Meal 6)

Natural source of creatine (~4-5g/kg raw), heme iron, zinc, and B12 (Harris et al., 1997, Proc Nutr Soc). Heme iron absorption is 15-35% vs. 2-20% for non-heme.

Hot Sauce (Meal 6)

Capsaicin has a dose-dependent thermogenic effect (Whiting et al., 2012, Appetite). While Frank's RedHot contains modest capsaicin (~0.5mg/tbsp), the effect is additive over time and zero-calorie flavor weapons increase dietary compliance.

NUTRIENT TIMING RATIONALE

Carbohydrates are front-loaded (Meals 1, 3) and placed around training (Meals 4, 5) to support glycogen availability when it matters most. Fats are distributed with breakfast and dinner to enhance fat-soluble vitamin absorption from the supplement stack. The 6-meal structure maintains a protein feeding every 2.5-3 hours, keeping each bolus within the 25-45g range that maximizes per-meal MPS (Areta et al., 2013, J Physiol). Casein from Oikos Triple Zero in Meal 5 provides sustained amino acid release through the post-workout window.

PHASE 2 — DEEP CUT

WEEKS 9-12 | 2,000 KCAL/DAY

PROTEIN 210g (42%)

CARBS 165g (33%)

FAT 55g (25%)

KEY CHANGES FROM PHASE 1

- Carbs drop from 220g to 165g (-55g) — primarily from rice portions and oatmeal
- Fat reduced from 65g to 55g — trim cooking oils, reduce nut portions
- Protein maintained at 210g — muscle preservation is non-negotiable
- Remove 1 banana, reduce rice portions by ~1/3 across meals
- Add 2-day carbohydrate refeeds every 10-14 days to restore leptin and thyroid function

ADJUSTED MEAL TEMPLATE

~1,985 cal actual

1 MEAL 1 — BREAKFAST

1.5 cups egg whites + 1 whole egg, 1/3 cup oatmeal (dry)

P: 33g C: 30g F: 7g | ~315 cal

2 MEAL 2 — MID-MORNING

1 scoop whey protein, 1 rice cake + 1 tbsp almond butter

P: 28g C: 18g F: 10g | ~275 cal

3 MEAL 3 — LUNCH

8oz chicken breast, 2/3 cup white rice (cooked), broccoli/spinach

P: 50g C: 30g F: 5g | ~365 cal

4 MEAL 4 — PRE-WORKOUT

6oz ground turkey (93% lean), 1/3 cup sweet potato, greens

P: 35g C: 22g F: 8g | ~300 cal

5 MEAL 5 — POST-WORKOUT

1.5 scoops whey protein, 8oz Oikos Triple Zero yogurt

P: 42g C: 25g F: 3g | ~295 cal

6 MEAL 6 — DINNER

6oz tilapia or lean ground beef (93%), vegetables, hot sauce

P: 32g C: 10g F: 10g | ~260 cal

RESEARCH: METABOLIC ADAPTATION SCIENCE

Metabolic adaptation (adaptive thermogenesis) is a disproportionate reduction in resting energy expenditure beyond what tissue loss alone explains. Jorgensen et al. (2018, Br J Nutr) showed RMR suppression begins at >=5% body weight loss. Phased caloric reduction counters this by preventing the body from fully calibrating to a single deficit level. Fleming et al. (2020, J Funct Morphol Kinesiol) found 2-day carbohydrate refeeds preserved FFM (-0.4 kg vs -1.3 kg) and RMR better than continuous restriction. Incorporating bi-weekly refeeds during Phase 2 is evidence-supported for both metabolic and psychological benefit.

PHASE 3 — FINISHING STRIKE

WEEK 13 | 1,800 KCAL/DAY

PROTEIN 200g (44%)

CARBS 140g (31%)

FAT 50g (25%)

FINAL WEEK RULES

- Zero deviation from plan — every gram counted, every meal timed
- Water intake: 1.5 gallons/day to support final flush
- No alcohol, no cheat meals, no processed food exceptions
- Training volume maintained but intensity monitored — listen to your body
- Sleep 8+ hours minimum — recovery is non-negotiable at this deficit
- This is 7 days. Mental warfare. You finish what you started.

FINAL PUSH MEAL TEMPLATE

~1,790 cal actual

1 MEAL 1 — BREAKFAST
1.5 cups egg whites, 1/4 cup oatmeal (dry)
P: 30g C: 20g F: 3g | ~230 cal

2 MEAL 2 — MID-MORNING
1 scoop whey protein, 1 rice cake
P: 27g C: 14g F: 2g | ~180 cal

3 MEAL 3 — LUNCH
8oz chicken breast, 1/2 cup rice, spinach/broccoli
P: 50g C: 25g F: 5g | ~345 cal

4 MEAL 4 — PRE-WORKOUT
5oz ground turkey (93% lean), 1/4 cup sweet potato, greens
P: 30g C: 16g F: 7g | ~250 cal

5 MEAL 5 — POST-WORKOUT
1.5 scoops whey protein, 6oz Oikos Triple Zero
P: 38g C: 18g F: 2g | ~240 cal

6 MEAL 6 — DINNER
6oz tilapia, large salad with lemon, vegetables
P: 30g C: 8g F: 8g | ~225 cal

RESEARCH: THE 1-WEEK FINISHING STRIKE — BACKED BY SCIENCE

This 1-week aggressive push is scientifically justified — but ONLY for 1 week. At ~33% of TDEE deficit, it remains above the 40% threshold where Carbone & Pasiakos (2019, Nutrients) showed amino acid diversion accelerates markedly. Janssen et al. (2023, Curr Opin Clin Nutr Metab Care) confirmed that short aggressive deficits carry less metabolic damage than extended ones. Aragon et al. (2021, BMC Sports) recommend carbohydrate loading in the final 36-48 hours before a photo shoot to maximize glycogen fullness. This is a finishing strike, not a lifestyle.

WEEKLY SHOPPING LIST

PHASE 1 BASE — ADJUST QUANTITIES PER PHASE

PROTEIN SOURCES

Chicken Breast	5 lbs
Ground Turkey 93%	3 lbs
Flank Steak	1.5 lbs
Tilapia Fillets	2 lbs
Lean Ground Beef 93%	2 lbs
Eggs (whole + whites)	2 doz + 2 cartons
Whey Protein Powder	5 lb tub
Oikos Triple Zero	7 cups
Pure Protein Bars	1 box (12ct)
Beef Jerky	2 bags
MegaFit Meals	3-5 prepped

CARBS & SNACKS

Oatmeal (old fashioned)	1 canister
White Rice (dry)	3 lbs
Bananas	7 (1/day)
Apples (Granny Smith)	7
Pretzels (low-fat)	1 bag
Sweet Potatoes	4 medium
Rice Cakes	1 bag

ESSENTIALS & FLAVOR

Water	1 gal/day min
Mrs. Dash Seasonings	2-3 varieties
Hot Sauce (Frank's)	1 bottle
Cooking Spray (PAM)	1 can
Broccoli (fresh/frozen)	3-4 bags
Spinach (fresh/frozen)	2-3 bags
Lemons / Limes	4-5
Garlic (fresh/powder)	1 each
Low-sodium Soy Sauce	1 bottle
Apple Cider Vinegar	1 bottle
Mustard (yellow/Dijon)	1 bottle

PHASE ADJUSTMENTS

- PHASE 2 (Wk 9-12): Reduce rice by 1/3, cut 1 banana/day, reduce oatmeal portion. Drop almonds/nut butter.
- PHASE 3 (Wk 13): Minimize rice further, no pretzels, no Pure Protein bars. Whole foods only. Eliminate cooking oils.
- ALL PHASES: Maintain full protein purchases. Never cut protein sources to save macros — cut carbs and fats first.

WEEKLY BUDGET TIP: Buy chicken and turkey in bulk. Freeze in pre-portioned bags. Rice and oats in bulk saves 30-40%.

MEAL PREP STRATEGY

COOK ONCE. EAT CLEAN ALL WEEK.

SUNDAY PREP DAY PROTOCOL

PROTEINS (Batch Cook)

- Grill or bake 5 lbs chicken breast — season with Mrs. Dash, garlic, lemon
- Brown 3 lbs ground turkey with onion and garlic — portion into 6oz containers
- Bake tilapia fillets — store individually wrapped
- Hard-boil 1 dozen eggs — keep shelled in fridge for quick access
- Separate egg whites into daily portions (1.5 cup measures)

CARBS (Batch Cook)

- Cook 3 cups dry rice in rice cooker — portion into 1/2 and 2/3 cup servings
- Bake 4 sweet potatoes — cool, peel, portion
- Pre-measure oatmeal into daily bags (1/2 cup or 1/3 cup by phase)

VEGETABLES (Wash & Portion)

- Wash and chop broccoli into daily portions
- Wash spinach, store in paper towel-lined containers
- Slice lemons/limes for the week

CONTAINERS & TRACKING

- Use labeled containers: Meal 1 through Meal 6 for each day
- Pre-log all meals in MyFitnessPal or similar tracker
- Prep 3-4 days at a time for maximum freshness (repeat Wednesday)
- Keep emergency protein bars and jerky in your bag at all times

PRO TIPS

- Invest in a food scale. Eyeballing portions kills cuts. Weigh everything raw.
- Season aggressively — the diet is strict, but flavors don't have to be bland. Zero-calorie sauces are your weapon.
- Cook proteins to 165°F internal. Overcooked chicken = compliance killer. Use a thermometer.
- Frozen vegetables are nutritionally equivalent to fresh and last all week. No excuses.
- If you fail to prep, you will fail the cut. This is the unsexy work that builds the physique.

MEGAFIT MEALS

YOUR GO-TO BACKUP WHEN YOU CAN'T COOK

WHY MEGAFIT MEALS

Life happens. Travel, overtime, emergencies — sometimes you can't meal prep. The difference between a successful cut and a failed one is what you do when your plan breaks. MegaFit Meals is a USDA-approved fitness meal delivery service built by ex-bodybuilders. Every meal is cooked fresh with grass-fed proteins, no preservatives, no GMOs, and flash-frozen for delivery. This is not an excuse to skip prep — this is your safety net when you can't.

RESEARCH: WHY MEAL DELIVERY WORKS FOR CUTTING

Whitham et al. (2013, J Hum Nutr Diet) found meal provision produced 6.6% weight loss vs. 4.3% for self-directed dieting in an RCT — with only 7% dropout vs. 41% dropout in the self-directed arm. Piernas et al. (2019, Obes Rev) meta-analysis showed meal provision programs produce -6.13 kg greater weight loss vs. comparator diets. Ducrot et al. (2017, Int J Behav Nutr Phys Act; n=40,554) found meal planning independently associated with 17% lower obesity odds. Decision fatigue around food is the #1 reason cutting diets fail (Voorhees et al., 2023) — MegaFit eliminates this entirely.

RECOMMENDED MEGAFIT MEALS FOR CUTTING

MEAL	CAL	PROTEIN	CARBS	FAT	BEST FOR
The Go-To Meal	400	**41g**	47g	4g	Lunch / Dinner
Salmon & Rice	520	**36g**	62g	18g	Post-Workout
Carne Asada Bowl	530	**43g**	51g	10g	Lunch (Phase 1)
Sweet & Spicy Chicken	430	**40g**	56g	4.5g	Pre-Workout
Hibachi Steak Bowl	510	**40g**	64g	10g	Lunch (Phase 1)

HOW TO USE MEGAFIT IN YOUR CUT

- Order 3-5 meals per week as your emergency backup — store frozen. Microwave in 3-4 minutes.
- PHASE 1: Any meal fits. The Go-To Meal (400 cal, 41g P) and Sweet & Spicy Chicken (430 cal, 40g P) are ideal.
- PHASE 2: Stick to lower-calorie options. The Go-To Meal and Sweet & Spicy Chicken stay within macro targets.
- PHASE 3: Use only The Go-To Meal (400 cal) — lowest calorie option with highest protein-to-calorie ratio.
- Post-Workout: Salmon & Rice (520 cal, 36g P, 62g C) delivers the glycogen replenishment your muscles need.
- NEVER use MegaFit as your primary food source. This is a backup for 2-3 meals per week maximum.
- Always check the label — custom meals can be adjusted for exact macro targets on the MegaFit website.

KEY STAT: Meal provision reduces diet dropout by 5.4x (7% vs 41% attrition). Whitham et al., 2013.

SUPPLEMENT STACK

RESEARCH-BACKED TIMING PROTOCOL — PAGE 1 OF 3

MORNING FASTED

NAC (N-Acetyl Cysteine)

Dose: 600mg (dose 1 of 2)

Timing: Fasted, upon waking with water

WHY: Glutathione precursor and liver/kidney shield. Split dosing sustains plasma levels (t1/2 ~6.25 hrs). Pedre et al. (2021, Pharmacol Ther) reviewed NAC's established role as a GSH precursor and antioxidant, with emerging evidence for H2S-mediated protective signaling. Fasted absorption avoids amino acid competition.

RESEARCH: NAC reduces oxidative stress markers by 30-50% in exercise studies. Synergistic with TUDCA for dual-pathway organ protection (oxidative stress + ER stress). Synergistic with Omega-3 for NF-kB inhibition.

Water + Electrolytes

Dose: 16-20oz water + sodium/potassium

Timing: Immediately upon waking

WHY: Overnight dehydration impairs morning cortisol clearance and cognitive function. Electrolytes support training performance during caloric deficit. Target ~3.7L (1 gallon) total daily intake per ACSM guidelines (Sawka et al., 2007).

RESEARCH: Even 2% dehydration reduces strength output by 10-20%. Sodium supports plasma volume during glycogen-depleted training states. Potassium prevents cramping during high-rep sets.

WITH BREAKFAST (Fat-Containing Meal)

Animal Pak (Multivitamin Complex)

Dose: 1 pack

Timing: With breakfast

WHY: Full-spectrum micronutrient insurance during caloric restriction. Contains zinc (testosterone cofactor at ~15mg), B-complex (B1, B2, B6, B12 for energy metabolism), iron (oxygen transport), and antioxidants (C, E). Deficiency risk increases as food variety narrows during a cut.

RESEARCH: Zinc deficiency alone can reduce testosterone by up to 50% (Prasad et al., 1996). B6 supports protein metabolism. Iron needs increase with intense training. The pack format ensures co-factor synergy.

TUDCA (Tauroursodeoxycholic Acid)

Dose: 500mg

Timing: With breakfast (requires food)

WHY: Chemical chaperone reducing ER stress via GRP78 suppression. Song et al. (2023, Clin Sci) confirmed dual FXR/Nrf2 activation for hepatoprotection. Bile acid analog — must be taken with food. Synergistic with NAC.

RESEARCH: TUDCA improves bile flow and reduces hepatocyte apoptosis. Critical stack component when using Fadogia Agrestis or any supplement with hepatotoxic potential. Reduces ER stress markers within 2-4 weeks of use.

Astragalus Root

Dose: 550mg

Timing: With breakfast

WHY: Astragaloside IV activates PI3K/AKT/mTOR and AMPK pathways. Yeh et al. (2022, Nutrients) confirmed PI3K-mediated Akt/mTOR signaling phosphorylation enhancing myotube hypertrophy. Anti-inflammatory via NF-kB/NLRP3 inhibition, with immunomodulatory and telomerase-activating properties.

RESEARCH: Astragalus has over 2,000 years of use in traditional Chinese medicine. Modern research confirms telomerase activation via TA-65 compound, which may slow cellular aging. The NF-kB and NLRP3 inhibition provides anti-inflammatory protection that complements NAC's oxidative stress pathway. Synergistic with the full organ-protection trio (NAC + TUDCA + Astragalus).

SUPPLEMENT STACK (CONTINUED)

WITH BREAKFAST (Continued)

Turkesterone + Tongkat Ali

Dose: 800mg Turk + 400mg TA + 10mg BioPerine

Timing: With breakfast

WHY: Turkesterone acts via ERbeta/mTOR, not androgen receptor. Note: Isenmann et al. (2019, Arch Toxicol) studied ecdysterone specifically — turkesterone effects are extrapolated from structural similarity. Tongkat Ali reduces SHBG and stimulates Leydig cells (Chinnappan et al., 2021, Food Nutr Res; 105-subject RCT). BioPerine inhibits P-gp and CYP enzymes, enhancing absorption of both compounds.

RESEARCH: Tongkat Ali's 105-subject RCT showed statistically significant free testosterone elevation by Week 4-6. BioPerine increases curcumin absorption by 2000% and CoQ10 absorption by 30% via CYP3A4/P-gp inhibition.

Fadogia Agrestis [CYCLE: 5 on / 2 off]

Dose: 600mg (10:1 extract)

Timing: With breakfast (cycling required)

WHY: Saponins stimulate LH-mediated testosterone synthesis (Yakubu et al., 2005, Asian J Androl). NO human RCT data exists — all evidence is from rat models. Nephrotoxicity documented at higher doses (Yakubu et al., 2009). NAC + TUDCA pairing is CRITICAL to counteract membrane stress. Monitor kidney/liver panels quarterly.

UC-II Collagen + Aquamin

Dose: 40mg UC-II + 250mg Aquamin

Timing: With breakfast (light protein preferred)

WHY: UC-II works via oral tolerance induction — Tregs suppress joint inflammation. Schon et al. (2022, JICM) confirmed 40mg/day improved knee ROM in 96-subject RCT. Aquamin provides 70+ trace minerals with independent anti-inflammatory effects (NF-kB/PGE2 inhibition). Must remain undenatured.

RESEARCH: Aquamin's multi-mineral complex includes calcium, magnesium, and 72 trace minerals from marine algae. UC-II must not be heated or mixed with acidic beverages — the 3D collagen structure must remain intact for the oral tolerance immune mechanism to function.

CoQ10 (Ubiquinol)

Dose: 200mg

Timing: With breakfast (fat required for absorption)

WHY: Electron transport chain carrier essential for ATP synthesis. Absorption is enhanced by dietary fat (StatPearls, 'Coenzyme Q10,' NBK531491: absorption improves in the presence of fatty meals). Synergistic with NAC — NAC reduces ROS disruption of the ETC while CoQ10 serves as the direct electron carrier.

RESEARCH: Ubiquinol form is 3-6x more bioavailable than ubiquinone. Supports cellular energy production in every mitochondria-dense tissue — heart, liver, skeletal muscle. Critical during caloric restriction when energy substrates are limited.

Vitamin D3 + K2 (MK-7)

Dose: 5,000 IU D3 + 100mcg K2

Timing: With breakfast (fat-soluble — needs 15-20g dietary fat)

WHY: Raimundo et al. (2011, Int J Endocrinol) showed 60% better D3 absorption with a high-fat meal. K2 directs calcium to bones via osteocalcin carboxylation. Both support testosterone production. D3 + K2 + Aquamin forms a complete bone mineral triad.

RESEARCH: Over 40% of US adults are D3-deficient. Deficiency correlates with lower testosterone, impaired recovery, and increased injury risk. K2 as MK-7 has a 72-hour half-life vs. MK-4's 6-hour half-life, requiring only one daily dose. Without K2, supplemental D3 may direct calcium to arterial walls instead of bone matrix.

SUPPLEMENT STACK (CONTINUED)

WITH BREAKFAST (Continued)

Omega-3 Fish Oil (EPA + DHA)

Dose: 2-3g combined EPA/DHA (dose 1 of 2)

Timing: With breakfast

WHY: Anti-inflammatory via prostaglandin/leukotriene modulation. Omega-3 absorption, especially ethyl ester form, is significantly enhanced with dietary fat (Lawson & Hughes, 1988, Biochem Biophys Res Commun). Triglyceride form (TG) absorbs better than ethyl ester (EE). Synergistic with NAC for NF-kB inhibition.

RESEARCH: EPA reduces inflammation; DHA supports neural function and mood stability during caloric restriction. Combined daily EPA+DHA of 4-6g provides maximal anti-inflammatory benefit. Look for IFOS 5-star certified brands.

MORNING + PRE-WORKOUT

iSatori Bio-Gro (Bovine Colostrum Peptides)

Dose: 1.5-3g (1-2 scoops) mixed into shake or water

Timing: 1 scoop with morning shake + 1 scoop pre-workout (15-30 min before training)

WHY: Bio-Pro Bio-Active Peptides from micro-concentrated bovine colostrum. Contains proline-rich peptides (PRPs), immunoglobulins (IgG, IgA, IgM), lactoferrin, growth factors (IGF-1, TGF-beta, FGF). Davison (2021, Nutrients) reviewed 25+ years of BC research: lean mass gains of +1.49kg at 20g/day (Antonio et al.), sprint performance +2.3% vs. whey. Low-dose trials (3.2g/day; Mikellidi et al., 2017, Eur J Nutr) showed recovery and anti-inflammatory benefits comparable to Bio-Gro's 1.5-3g range. Reduces exercise-induced gut permeability by up to 70% (Griffiths et al., 2022, PLOS ONE). Safe with no adverse events in meta-analysis of 10 RCTs (Durkalec-Michalski et al., 2020).

RESEARCH: FOR MEN 18+ WITH 2+ YEARS TRAINING ONLY. BC does NOT raise serum IGF-1 (Jones et al., 2019, Eur J Nutr) — growth factors act locally on GI epithelium and muscle tissue, not systemically. No WADA-relevant concerns. Immunoglobulins support gut integrity during caloric restriction when GI stress from hard training is amplified. Mix unflavored powder into any protein shake. MCT oil base enhances absorption.

PRE / INTRA WORKOUT

Optimum Nutrition Amino Energy

Dose: 2 scoops (10g amino blend + 200mg caffeine + 100mg green tea extract)

Timing: 15-30 min pre-workout or sip intra-workout

WHY: Full-spectrum amino blend: micronized taurine, L-glutamine, L-arginine, L-leucine, beta-alanine, L-citrulline, L-valine, L-tyrosine, L-histidine, L-lysine HCl, L-phenylalanine, L-threonine, L-methionine. Leucine triggers mTOR/MPS signaling (Churchward-Venne et al., 2012, Nutr Metab). Leucine-enriched EAAs during exercise boost post-exercise MPS by 33% (Pasiakos et al., 2011, Am J Clin Nutr). Beta-alanine buffers muscle pH for extended high-intensity sets (ISSN Position Stand, Trexler et al., 2015; effect size 0.39 in trained males, Georgiou et al., 2024). Citrulline enhances NO production for vasodilation and blood flow (Kim et al., 2023, Nutrients). Taurine extends time to exhaustion by 10% and reduces lactate by 16.5% (Page et al., 2019, Eur J Sport Sci).

RESEARCH: CAFFEINE + GREEN TEA SYNERGY: 100mg caffeine + 50mg green tea extract per scoop. Dulloo et al. (1999, Am J Clin Nutr) landmark RCT showed caffeine + catechins increase fat oxidation 28-41% via COMT inhibition. Roberts et al. (2015, JISSN) confirmed 24.9% fat oxidation increase and 1.63% body fat reduction. ISSN Position Stand (Grgic et al., 2021): caffeine improves strength, power, and endurance. Combined taurine + BCAA reduces DOMS (Ra et al., 2013, JISSN). Particularly important during Phases 2-3 when glycogen is depleted and training intensity must be maintained on reduced calories.

SUPPLEMENT STACK (EVENING)

DINNER & BEFORE BED PROTOCOL

WITH DINNER

NAC 600mg (2nd dose) + Omega-3 Fish Oil (2nd dose)

Split dosing sustains 24-hour antioxidant coverage and anti-inflammatory EPA/DHA levels.

RESEARCH: NAC half-life is ~6.25 hours. Morning + dinner dosing maintains consistent glutathione precursor availability.

BEFORE BED

Magnesium Glycinate

Dose: 400mg (elemental ~56-80mg Mg)

Timing: 30-60 minutes before bed

WHY: Modulates GABA receptors and NMDA for sleep quality. The glycine chelate provides independent sleep-promoting effects. Gratwicke et al. (2021, Nutrients) reviewed nutritional interventions for athlete sleep, identifying magnesium as evidence-supported for improvement. Bypasses laxative effect of citrate/oxide forms.

RESEARCH: Glycinate form has the highest bioavailability of all magnesium forms. Glycine itself acts as an inhibitory neurotransmitter, providing a dual sleep benefit. Magnesium also supports 300+ enzymatic reactions including protein synthesis and muscle contraction. Deficit is common in athletes due to sweat losses.

iSATORI BIO-GRO — SCIENCE DEEP DIVE

WHAT'S IN IT

- Proline-Rich Peptides (PRPs): Modulate immune cell activity and cytokine production. Support tissue repair signaling.
- Immunoglobulins (IgG, IgA, IgM): Stabilize gut epithelium, prevent pathogen adhesion, reduce exercise-induced gut permeability. IgG concentration in BC: 20-150 g/L (Bicen et al., 2024, Front Immunol).
- Lactoferrin: Broad antimicrobial, antiviral, and anti-inflammatory properties. Supports iron metabolism without GI side effects. Concentration in BC: ~1.5 g/L (Riaz et al., 2026, J Anim Feed Sci).
- Growth Factors (IGF-1, TGF-beta, FGF): Act locally on GI epithelium and muscle tissue. Do NOT raise systemic IGF-1 levels (Jones et al., 2019). Support tissue repair and anabolic signaling via PI3K/Akt/mTOR (Yoshida & Delafontaine, 2020, Cells).
- MCT Oil Base: Medium-chain triglycerides enhance absorption of fat-soluble bioactives. Rapidly oxidized for energy, not stored as fat.

WHO SHOULD USE BIO-GRO

- Men 18+ with at least 2 years of consistent resistance training experience.
- Athletes in caloric deficit who need recovery support and gut health protection.
- Individuals training 4+ days/week who experience slow recovery or frequent illness during cuts.

DOSING PROTOCOL

- Standard: 1 scoop (1.5g) mixed into morning protein shake. Unflavored — no taste impact.
- Enhanced: 2 scoops (3g) on training days — 1 scoop AM, 1 scoop pre-workout (15-30 min before training).
- Low-dose BC trials (3.2g/day) showed significant anti-inflammatory and recovery benefits in trained athletes (Mikellidi et al., 2017; Skarpanska-Stejnborn et al., 2023).

SAFETY NOTE: Contains milk (bovine colostrum). Not for individuals with dairy allergy.

Safe in meta-analysis of 10 RCTs with no adverse events at any dose (Durkalec-Michalski et al., 2020, Nutrients).

SUPPLEMENT SCIENCE APPENDIX

INTERACTIONS, CYCLING, ABSORPTION & WARNINGS

STACK SYNERGY MAP

- NAC + TUDCA + Astragalus: Triple-layer organ protection — oxidative stress (NAC), ER stress (TUDCA), immune/inflammatory (Astragalus). Non-overlapping, complementary mechanisms.
- NAC + CoQ10: Mitochondrial synergy — NAC reduces ROS disruption of electron transport; CoQ10 is the direct electron carrier.
- Tongkat Ali + Fadogia: Complementary testosterone pathways — Fadogia via LH elevation, Tongkat Ali via SHBG reduction + Leydig cell support.
- D3 + K2 + Aquamin: Complete bone mineral triad — D3 enhances calcium absorption, K2 directs it to bones, Aquamin provides the multi-mineral matrix.
- BioPerine (from Tongkat): Whole-stack enhancer — inhibits P-gp and CYP enzymes, boosting absorption of Astragalus, Turkesterone, CoQ10, D3, and K2.
- Omega-3 + NAC: Dual anti-inflammatory — NAC via NF-kB inhibition, Omega-3 via prostaglandin/leukotriene modulation. Additive effect.
- Bio-Gro + Amino Energy (Pre-Workout Stack): Bio-Gro primes gut integrity and delivers growth factors; Amino Energy provides MPS substrates, caffeine, and performance enhancement. Take both 15-30 min before training.
- Amino Energy Caffeine + Green Tea: Synergistic thermogenesis — caffeine elevates catecholamines, catechins inhibit COMT to extend their fat-burning effect (Dulloo et al., 1999).

INTERACTION WARNINGS & ABSORPTION COMPETITION

- Calcium vs. Magnesium: Both Animal Pak and Aquamin provide calcium. Keep breakfast calcium below 500mg to avoid blocking Mg absorption. Take Mg at bedtime to separate timing.
- Iron vs. Calcium: Animal Pak contains iron. Calcium competes for absorption. If iron status is a concern, take Animal Pak separately from Aquamin.
- NAC vs. Dietary Amino Acids: Fasted NAC (morning dose) avoids cysteine competition from protein meals. Dinner NAC with food is fine — pharmacodynamic effect is less PK-dependent.
- Fat-Soluble Vitamin Cluster: D3, K2, CoQ10, and Omega-3 ALL require dietary fat for absorption. Taking them together at breakfast with 15-20g fat maximizes a single absorption window.
- NAC + Nitroglycerin: Do NOT combine. NAC potentiates hypotensive effects. Not relevant to this stack but critical if cardiovascular medications are ever prescribed.
- Bio-Gro + Dairy Allergy: Bio-Gro contains bovine colostrum (milk). Contraindicated for individuals with confirmed dairy/milk protein allergy.

CYCLING PROTOCOLS WITH EVIDENCE

- Fadogia Agrestis: 5 days on / 2 days off (minimum). Add a full 2-week break every 6-8 weeks. Yakubu et al. (2009) documented subclinical membrane disruption reversible with 10-day washout. Nephrotoxicity risk is cumulative — DO NOT skip cycles.
- Turkesterone: No established cycling protocol needed — no evidence of receptor downregulation or hormonal axis suppression. Continuous use is acceptable.
- Tongkat Ali: Can be used continuously. Clinical RCTs (Chinnappan et al., 2021) used continuous daily dosing for 12+ weeks with sustained benefit.
- NAC: Continuous use supported. No cycling required. Long-term safety data up to 1,200mg/day is robust.
- Bio-Gro (Bovine Colostrum): No cycling required. Meta-analysis of 10 RCTs supports continuous daily use with no adverse events (Durkalec-Michalski et al., 2020). Long-term studies up to 24 weeks show sustained benefit.
- Amino Energy: No cycling required for amino acids. Caffeine tolerance may develop — consider 1-week caffeine wash every 8-12 weeks to restore sensitivity.

SUPPLEMENT QUALITY STANDARDS

- Third-Party Testing: Prioritize NSF Certified for Sport, Informed Sport, or USP-verified supplements. These certifications ensure absence of banned substances and label accuracy.
- Omega-3: Look for IFOS 5-star certification. Verify triglyceride (TG) form over ethyl ester (EE) on the label. Molecular distillation removes heavy metals and PCBs.
- CoQ10: Ubiquinol (reduced form) is 3-6x more bioavailable than ubiquinone (oxidized form). Kaneka QH is the gold-standard branded ingredient.
- Colostrum (Bio-Gro): Ensure first-milking sourced (highest IgG concentration). Look for low-heat processing to preserve immunoglobulin structure and bioactivity.
- Tongkat Ali: Standardized root extract (200:1 or higher). Verify eurycomanone content on COA. Avoid proprietary blends that hide actual dosing.
- Storage: Keep all probiotics, colostrum, and omega-3 products refrigerated after opening. Heat and light degrade bioactive compounds rapidly.

ABSORPTION & TIMING GUIDE

MAXIMIZE EVERY SUPPLEMENT DOLLAR

KEY ABSORPTION TIPS

- Fat-soluble vitamins (D3, K2, CoQ10): Require 15-20g dietary fat. Raimundo et al. (2011) showed 60% higher D3 absorption with fat-containing meals.
- NAC timing: Fasted morning for maximum absorption; with-food dinner for renal/hepatic coverage. Split dosing sustains plasma levels (t1/2 ~6.25 hrs).
- TUDCA: MUST be taken with food — bile acid metabolism is food-dependent. Fasted administration reduces efficacy and causes GI discomfort.
- UC-II Collagen: Must remain undenatured. Do not heat, blend with acidic drinks, or store improperly. The oral tolerance mechanism requires intact 3D collagen structure.
- Omega-3: Triglyceride form (TG) absorbs better than ethyl ester (EE). Always take with a fat-containing meal. Never take fasted.
- Bio-Gro: Mix into a protein shake (not hot liquid). The immunoglobulins and growth factors require intact protein structure for bioactivity. MCT oil base aids absorption. Take AM scoop in breakfast shake, pre-workout scoop in water or shake 15-30 min before training.
- Amino Energy: Consume 15-30 minutes before training alongside Bio-Gro scoop 2 for peak plasma amino acid levels and growth factor delivery during exercise.
- BioPerine (in Tongkat Ali): Enhances absorption of CoQ10 by 30%, curcumin by 2000%, and fat-soluble vitamins. Take at the same time as your fat-soluble cluster.

DAILY SUPPLEMENT TIMING SUMMARY

TIME	SUPPLEMENTS	NOTES
Upon Waking	NAC 600mg, Water + Electrolytes	Fasted, before food
Breakfast	Animal Pak, TUDCA 500mg, Astragalus,	With 15-20g dietary fat
	Turk+TA, Fadogia, UC-II+Aquamin,	All fat-soluble supps here
	CoQ10, D3+K2, Omega-3, Bio-Gro	Bio-Gro scoop 1 in shake
Pre-Workout	Bio-Gro (scoop 2) + Amino Energy	15-30 min before training
Dinner	NAC 600mg, Omega-3 (2nd dose)	With food
Before Bed	Magnesium Glycinate 400mg	30-60 min before sleep

> *"The supplement stack is the force multiplier. The diet is the foundation. Never invert this."*

MONTHLY SUPPLEMENT COST ESTIMATE

SUPPLEMENT	30-DAY SUPPLY	DAILY COST
Animal Pak	$28-35	~$1.00
NAC 600mg (x2/day)	$12-18	~$0.50
TUDCA 500mg	$25-35	~$1.00
Astragalus 550mg	$10-15	~$0.40
Turkesterone 800mg	$35-50	~$1.50
Tongkat Ali 400mg + BioPerine	$20-30	~$0.85
Fadogia Agrestis 600mg	$18-25	~$0.70
UC-II 40mg + Aquamin	$20-28	~$0.80
CoQ10 (Ubiquinol) 200mg	$25-40	~$1.10
D3 5000IU + K2 100mcg	$12-18	~$0.50
Omega-3 (IFOS rated)	$20-30	~$0.85
Magnesium Glycinate 400mg	$12-18	~$0.50
Bio-Gro (1-2 scoops/day)	$30-40	~$1.10
Amino Energy (2 scoops/day)	$22-30	~$0.90
TOTAL ESTIMATED	**$290-410/mo**	**~$11.70/day**

Prices reflect average US retail as of 2025. Buy in bulk or subscribe-and-save to reduce cost by 15-25%.

TIMELINE TO RESULTS

13-WEEK MILESTONES — EVIDENCE-BASED PROJECTIONS

Starting point: ~200 lbs, ~15-18% body fat | Target: 10-12% body fat | Expected loss: 13-18 lbs (85-90% fat mass)

WEEKS 1-4 ESTABLISHING THE DEFICIT

- Scale drops 2-4 lbs rapidly in Week 1 — primarily glycogen depletion and water, not fat
- True fat loss accumulates from Week 2 onward at 0.5-1 lb/week
- Waist measurement decreases 0.5-1 inch by Week 4
- Training performance may fluctuate slightly as body adjusts to new energy intake
- Supplement stack begins organ-protective effects (NAC: GSH elevation in 24-72 hrs; TUDCA: ER stress reduction by Week 2-4)
- Bio-Gro gut-protective effects establish within first 2 weeks — reduced exercise-induced permeability

WEEKS 5-8 VISIBLE CHANGES BEGIN

- Consistent fat loss of 0.5-1 lb/week becomes visually apparent
- Vascularity in forearms and upper arms begins to appear or improve
- Muscle definition in shoulders, chest separation, and upper abs visible at 12-14% BF
- Tongkat Ali testosterone effects measurable by Week 4-6 (Chinnappan et al., 2021)
- UC-II joint benefits begin at Week 3-4 and continue improving
- Amino Energy caffeine + green tea synergy maximizing fat oxidation during training sessions
- Total weight lost by Week 8: approximately 6-10 lbs of predominantly fat mass

WEEKS 9-12 SIGNIFICANT RECOMPOSITION

- Approaching 10-12% body fat — visible abs (top 4) and oblique striations emerge
- Phase 2 caloric reduction (2,000 cal) may cause slight performance decrements — normal
- Metabolic adaptation now measurable — implement 2-day carb refeeds every 10-14 days
- Hormonal markers (testosterone, T3) may begin suppressing (Chappell et al., 2021)
- Supplement stack at full protective capacity: NAC/TUDCA shielding, CoQ10 energy, Mg sleep quality

WEEK 13 THE FINISHING STRIKE

- Final aesthetic refinement at 1,800 kcal — revealing existing work, not building new tissue
- Subcutaneous water redistributes, veins become more prominent
- Consider carbohydrate loading in final 36-48 hours for peak glycogen fullness (Aragon et al., 2021)
- Total 13-week result: 13-18 lbs lost, final body fat 8-12%, lean mass preserved within 1-3 lbs

POST-CUT: REVERSE DIETING PROTOCOL

- Increase calories by 75-150 kcal per week from end-of-cut intake (1,800) back toward TDEE (~2,700-2,800)
- Prioritize carbohydrate increases first — restores leptin, thyroid (T3), and training performance
- Maintain high protein throughout (200g+) to protect lean mass during metabolic recovery
- Continue full supplement stack during reverse — NAC/TUDCA organ protection remains critical during metabolic transition
- Expect 4-8 weeks to fully restore resting energy expenditure (Chica-Latorre et al., 2022, JISSN). Note: reverse dieting remains a theoretical concept with limited controlled evidence.
- Fat overshoot phenomenon is real — structured reverse dieting aims to prevent rebound (Melby et al., 2017)
- Monitor bodyweight weekly and waist measurements biweekly — accept 2-4 lbs of water/glycogen regain as normal

"The body achieves what the mind believes."

Trust the process. Execute the plan. Results are inevitable.

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