

# MOTS-c 10 mg Vial | Dosage & Mixing Guide

Mitochondrial-Derived Peptide • AMP-Activated Protein Kinase (AMPK) Activator • Subcutaneous Administration • For Research Purposes Only

📍 @pepalpha.tides

## QUICKSTART HIGHLIGHTS

- Reconstitute:** Add 2.0 mL bacteriostatic water → ~5.0 mg/mL concentration
- Initial Step-Up:** Gradual ramp protocol to assess dynamic tolerance (0.2 mg → 0.3 mg per injection)
- Vial Yield:** Highly efficient introductory yield; easily maps across multi-week titration profiles.
- Storage:** Refrigerate at 2-8°C (35-46°F). Use within 14 days after reconstitution for maximum stability.

## DOSING CHART (2.0 ML RECONSTITUTION = 5.0 MG/ML PROTOCOL)

| TIMING MATRIX          | DOSE PER INJECTION | VOLUME (mL) | UNITS (U-100)              | WEEKLY FREQUENCY      | NOTES                                   |
|------------------------|--------------------|-------------|----------------------------|-----------------------|-----------------------------------------|
| Week 1 (Titration)     | 0.2 mg / 2000 mcg  | 0.04 mL     | 4 units                    | 2 injections / wk     | Initial introductory tolerance baseline |
| Week 2 (Step-Up)       | 0.3 mg / 3000 mcg  | 0.06 mL     | 6 units                    | 2 injections / wk     | Secondary metabolic induction phase     |
| Standard Research Dose | 5.0 mg / 5000 mcg  | 1.00 mL     | 100 units (1 Full Syringe) | 1 to 3 times per week | Optimized therapeutic target window     |

KEY: 1 unit = 0.01 mL = 0.05 mg | Precise low-volume measurements are highly recommended for the initial onboarding weeks.

## RECONSTITUTION STEPS

- Bring the frozen/refrigerated MOTS-c 10 mg vial to room temperature naturally before mixing to minimize structural shock.
- Clean both the peptide vial stopper and the bacteriostatic water vial stopper with fresh alcohol swabs.
- Draw exactly 2.0 mL of bacteriostatic water using a sterile mixing syringe.
- Slowly aim the needle towards the interior glass wall of the MOTS-c vial. Slowly drop the water down the glass side to avoid agitating or creating foam.
- Gently roll or swirl the vial between your palms. **Do NOT shake.** MOTS-c is a highly structured 16-amino-

## INJECTION PROTOCOL

- Needle Options:** Standard 29 to 31 gauge U-100 insulin syringe (0.3 mL or 0.5 mL capacity syringes are ideal for accurate low-unit visualization).
- Administration Site:** Subcutaneous tissue layer. Most common sites include the lower abdominal fat pad (avoiding a 2-inch radius around the umbilicus) or outer thighs.
- Timing Element:** Optimally administered in the morning or approximately 30 to 60 minutes before physical training sessions to exploit the metabolic synergies with cellular exercise states.

acid peptide chain that degrades under physical impact.

6. Confirm clarity. The final solution must look entirely translucent and clear. Store immediately in the refrigerator.

## HOW MOTS-C WORKS

MOTS-c (Mitochondrial Open Reading Frame of the 12S rRNA Type-c) is a naturally occurring, short 16-amino-acid peptide encoded within the mitochondrial genome rather than the nuclear DNA. Functioning as an autonomous mitochondrial hormone, it translocates directly to the cell nucleus during metabolic duress to orchestrate systemic energy homeostatic pathways.

Its core mechanism relies heavily on the profound activation of **AMPK (AMP-activated protein kinase)**, the master energy sensing switch of the body. By driving AMPK expression, MOTS-c enhances glucose uptake directly into skeletal muscle tissue independent of insulin pathways, effectively increasing cellular insulin sensitivity. Furthermore, it regulates the AICAR pathway to stimulate systemic lipid beta-oxidation (fat burning), prevents metabolic fat accumulation under calorie-dense conditions, and triggers mitochondrial biogenesis—the synthesis of brand new, highly efficient cellular power plants.

### RESEARCHED BENEFITS

- **Elevates Insulin Sensitivity:** Optimizes systemic blood glucose clearance into muscle tissue.
- **Accelerates Lipid Utilization:** Promotes cellular breakdown and burning of stored fatty acids.
- **Mitochondrial Biogenesis:** Encourages the formation of new, functional cellular mitochondria.
- **Enhances Physical Output:** Increases metabolic endurance, capacity, and muscular performance indices.
- **Anti-Aging Adaptations:** Aids in reversing age-associated metabolic decline and physical frailty.

### REPORTED SIDE EFFECTS

- **Injection Site Flushing:** Transitory redness, warmth, or mild itching at the subcutaneous zone.
- **Lactic Acid Sensations:** Mild muscular warmth or tingling closely mimicking a post-workout effect.
- **Hypoglycemic Shift:** Temporary drops in circulating blood sugar due to rapid cell glucose uptake.
- **Transient Fatigue:** Short-lived lethargy immediately following introductory protocols as energy systems adapt.

**DISCLAIMER:** This document is created exclusively for educational and laboratory research applications. MOTS-c has not been universally evaluated or approved by the FDA for human therapeutic implementation or direct consumption. All observations, protocols, and statistics are adapted from ongoing peer-reviewed scientific studies. Always ensure rigorous safety protocols and clear professional consultation before executing peptide research design.