

UNEARTHED WELLNESS

WELCOME KIT

MOTS-c Mitochondrial Open Reading Frame

Metabolic renewal · Energy optimisation · Longevity support



A NOTE FROM YOUR TEAM

Welcome to your MOTS-c protocol.

MOTS-c is unlike any other peptide in your protocol toolkit. It isn't derived from gastric proteins or synthesised in a laboratory from scratch — it is encoded directly within your own mitochondrial DNA. Your cells have been producing a version of this peptide since before you were born. You are simply giving your biology more of a signal it already knows how to use.

Discovered in 2015 by researchers at the University of Southern California, MOTS-c has since emerged as one of the most compelling peptides in metabolic and longevity science. It communicates between your mitochondria and the nucleus of your cells — a signalling language that governs how your body uses energy, responds to stress, and ages.

This kit covers what MOTS-c is doing at the cellular level, how to administer your protocol, what to expect as your metabolism responds, and how to reach us with any questions.

Your mitochondria already know how to do this.

INSIDE THIS KIT

- What MOTS-c is and how it works at the cellular level
- Storage and handling of your injectable peptide
- Step-by-step injection guide
- What to expect week by week
- Lifestyle practices that amplify your results
- Side effects: what's normal and what to watch for
- How to reach us

There are no silly questions here. We mean that.

WHAT YOU'VE ORDERED

Meet MOTS-c.

MOTS-c — Mitochondrial Open Reading Frame of the 12S rRNA-c — is a 16-amino-acid peptide encoded within the mitochondrial genome. This is what makes it extraordinary: unlike virtually every other therapeutic peptide, it originates from within the mitochondria themselves, the ancient energy-producing structures at the heart of every cell.

MOTS-c acts as a retrograde signal — travelling from the mitochondria to the cell nucleus to regulate gene expression. It plays a central role in metabolic homeostasis: influencing how your cells absorb and utilise glucose, how efficiently fat is oxidised for energy, and how your body responds to physical and metabolic stress. It also modulates AMPK — one of the master regulators of cellular energy — and interacts with the folate cycle, a fundamental pathway in cellular repair and longevity.

16 amino acids. Born inside your own mitochondria.

WHAT IT'S DOING IN YOUR BODY

- **Metabolic regulation.** Activates AMPK signalling to improve glucose uptake and insulin sensitivity — studied particularly in the context of insulin resistance and type 2 diabetes risk reduction.
- **Fat oxidation and weight regulation.** Promotes the preferential use of fat as fuel and has demonstrated anti-obesity effects in research models, including resistance to diet-induced obesity.
- **Exercise mimetic effects.** MOTS-c levels rise naturally during exercise. Exogenous MOTS-c replicates aspects of this response — improving physical performance and endurance even without additional training stimulus.
- **Longevity and healthy ageing.** Circulating MOTS-c levels decline with age. Research in centenarian populations has identified MOTS-c variants associated with exceptional longevity. Supplementation is being investigated as a strategy to restore youthful mitochondrial signalling.
- **Anti-inflammatory and stress resilience.** MOTS-c reduces systemic inflammation and improves cellular resilience to metabolic and oxidative stress — two of the primary drivers of accelerated ageing.

- **Musculoskeletal function.** Emerging research suggests a role in preserving muscle mass, bone density, and physical function — particularly relevant in age-related muscle decline (sarcopenia).

EMERGING & SPECULATIVE RESEARCH

The following areas show early promise but are based on preliminary or animal-model data only. Human trials are limited or ongoing. Discuss with your prescriber before drawing conclusions about these applications: cognitive protection and neuroprotection; immune system modulation; cardiovascular risk reduction; and skin ageing. These are areas of active research interest but cannot yet be considered established clinical benefits.

BEFORE YOU BEGIN

Storage and handling.

A few minutes spent here means your peptide stays potent and effective for the full length of your protocol. MOTS-c is a delicate signalling molecule — heat, light, and agitation will degrade it before it reaches you.

TEMPERATURE

Refrigerate at 2–8°C. A standard fridge shelf is perfect. Never freeze.

LIGHT

Keep in original packaging or a dark drawer. Peptides degrade with UV exposure.

AFTER RECONSTITUTION

Once mixed with bacteriostatic water, use within 28 days. Write the date on the vial.

HANDLING

Swirl gently to mix — never shake. Shaking disrupts the peptide structure.

BEFORE EACH USE

Discard if the solution appears cloudy, discoloured, or contains particles.

SHELF LIFE (UNRECONSTITUTED)

Keep dry and refrigerated until ready to use. Do not reconstitute until needed.

WHAT'S IN YOUR KIT

- Your MOTS-c peptide vial
- Bacteriostatic water for reconstitution
- Syringes and insulin-gauge needles
- Alcohol swabs

If anything is missing or unfamiliar, contact us before you begin. Do not substitute components or attempt reconstitution with any water other than the bacteriostatic water provided.

YOUR INJECTION GUIDE

Step by step. You can do this.

The needle is tiny. The injection is subcutaneous — just under the skin, not into muscle. By your third or fourth session, it will feel completely natural.

01 Wash your hands

Thoroughly, with soap, for 20 seconds. Your most important preparation step.

02 Lay out your materials

Vial, syringe, needle, and two alcohol swabs on a clean flat surface. There is no rush.

03 Swab the vial top

Wipe the rubber stopper with a swab. Let it air-dry for 10 seconds before inserting the needle.

04 Draw up your dose

Insert the needle and draw the plunger slowly to your prescribed dose. Tap out air bubbles, then gently push them free.

05 Choose your injection site

The abdomen (at least 5cm from the navel) or outer thigh. Rotate sites each time to prevent localised irritation.

06 Swab the site

Clean with your second swab. Let it dry fully — this genuinely reduces any sting.

07 Pinch and inject

Gently pinch a fold of skin. Insert at 45° in one smooth motion. Release the pinch, then slowly depress the plunger.

08 Withdraw and press

Remove the needle. Apply gentle pressure with a clean swab for a few seconds. Do not rub.

09 Dispose safely

Place the used needle immediately in a sharps container.

That is expected and entirely normal. Hesitation, a small bruise, mild redness — all common and settle quickly. If you'd like to talk through the process before your next dose, call us.

By session three, it will feel like second nature.

YOUR JOURNEY

What to expect — week by week.

Every body responds in its own time. MOTS-c is not a stimulant — its effects are metabolic and cellular, which means they build gradually and compound over weeks. This is an honest guide to what most people experience, not a guarantee — but a map.

The shift is happening before you can feel it.

DAYS 3-7

Some people notice a subtle improvement in energy steadiness — less mid-afternoon dip, more even fuel throughout the day. Blood sugar regulation begins to improve at the cellular level, even before it's perceptible.

WEEKS 2-3

More consistent energy levels and improved recovery from exercise. If managing weight is part of your goal, early shifts in body composition may begin — driven by improved fat oxidation and insulin sensitivity rather than any stimulant effect.

WEEKS 4-6

Meaningful metabolic adaptation underway. Reduced cravings, improved appetite regulation, and better physical performance are commonly reported. Inflammation markers, where elevated, often begin to normalise.

MONTH 2-3

Sustained metabolic recalibration. Faster recovery from physical exertion, improved stress resilience, and a sense of steadier, cleaner energy. Many describe feeling the most metabolically balanced they have in years.

A NOTE ON TIMELINE EXPECTATIONS

The week-by-week outline above reflects patterns reported in early clinical observation and user experience. Individual responses vary considerably. MOTS-c human trial data on specific timelines is still emerging — you may experience effects sooner, later, or differently. Trust your body and keep your prescriber informed of your progress.

YOUR PRESCRIPTION REMINDER

Dose _____ mcg / mg

Frequency _____ × per week

Protocol length _____ weeks

Do not adjust your dose without speaking to your prescriber first.

SIDE EFFECTS

What's normal — and what to watch for.

Your peptide has been prescribed within a clinical framework and dispensed to pharmaceutical-grade standards. MOTS-c has a strong safety profile in the research to date. We want you fully informed so nothing catches you off guard.

COMPLETELY NORMAL — NO ACTION NEEDED

- **Mild fatigue in the first few days.** As your metabolic pathways recalibrate, some people experience brief tiredness. This typically resolves within the first week.
- **Slight injection site redness or bump.** Localised, fades within an hour or two. Rotating sites prevents recurrence.
- **Increased appetite or mild hunger shifts.** As insulin sensitivity improves and energy metabolism shifts, some adjustment in hunger signals is normal and settles.
- **Mild headache in the first few doses.** Transient and typically resolves on its own. Stay well hydrated.

PLEASE REACH OUT IF YOU EXPERIENCE

- Significant swelling, heat, or pain at the injection site lasting more than 24 hours
- Signs of infection — increasing redness, pus, fever, or spreading warmth
- Any allergic reaction — itching, hives, or difficulty breathing (seek emergency care if severe)
- Persistent or significant hypoglycaemic symptoms — dizziness, shakiness, confusion — particularly if diabetic or on glucose-lowering medication
- Anything that doesn't feel right — trust your instincts and call us

IMPORTANT NOTE ON DRUG INTERACTIONS

Given MOTS-c's meaningful effect on insulin sensitivity and glucose metabolism, anyone using insulin, metformin, or other glucose-lowering medications should ensure their prescriber is aware and monitoring appropriately. Blood sugar responses may be amplified. This is not a contraindication — it is a clinical consideration requiring awareness.

We would always rather hear from you than have you wonder alone.

AMPLIFY YOUR RESULTS

Practices that deepen your protocol.

MOTS-c is a mitochondrial signal — and your mitochondria respond to everything you do. These practices are not incidental to your protocol. They are part of it.

Move Your Body

MOTS-c is naturally released during exercise — particularly during sustained aerobic activity. Even moderate movement (brisk walking, cycling, swimming) amplifies MOTS-c's signalling activity and compounds your results meaningfully. You do not need to train hard. You need to move consistently.

Prioritise Metabolic Nutrition

A diet that supports stable blood sugar — rich in quality protein, healthy fats, complex carbohydrates, and fibre — provides the metabolic environment MOTS-c needs to work most effectively. Ultra-processed foods, refined sugars, and excessive alcohol place a direct burden on the mitochondrial pathways MOTS-c is working to restore.

Protect Your Sleep

Mitochondrial repair and metabolic recalibration occur predominantly during sleep. Seven to nine hours of quality sleep is not optional for this protocol — it is the recovery window where MOTS-c's cellular effects consolidate.

Manage Chronic Stress

Sustained cortisol elevation directly impairs mitochondrial function and glucose regulation — working against the very pathways MOTS-c is supporting. Whatever your stress practice is, treat it as clinical.

Consider Time-Restricted Eating

Intermittent fasting and time-restricted eating activate many of the same AMPK pathways as MOTS-c. Combining them may produce additive benefits for metabolic health and cellular repair — though discuss with your prescriber if you have any history of disordered eating or blood sugar instability.

Rotate Injection Sites

Rotating between the abdomen and outer thighs prevents localised tissue irritation and maintains consistent absorption.

COMMON QUESTIONS

You asked. We answered.

Can I take MOTS-c alongside my other medications?

MOTS-c is generally well-tolerated alongside most treatments, but its effect on insulin sensitivity means anyone on glucose-lowering medications should ensure their prescriber is aware. If your medications have changed since your consultation, let us know before proceeding.

How long is a typical protocol?

Most protocols run 8–12 weeks. Given that MOTS-c's effects are metabolic and cumulative, some individuals benefit from longer or cyclic protocols — particularly those with chronic metabolic conditions. Your prescriber will review your response and adjust accordingly.

My energy and body composition are improving — should I stop early?

Please don't stop without consulting your prescriber first. Early improvements often reflect the beginning of metabolic recalibration, not its completion. Stopping prematurely may mean the underlying cellular changes haven't fully consolidated.

Can I use MOTS-c alongside other peptides?

Yes — MOTS-c combines particularly well with BPC-157 for comprehensive metabolic and systemic restoration, and with AOD-9604 or CJC-1295 for body composition goals. Speak to your prescriber about a stacked protocol if your goals extend beyond metabolic health alone.

How new is the research on MOTS-c?

MOTS-c was first identified in 2015 and the research field is still maturing. The metabolic and exercise-mimetic evidence base is solid and growing. Some of the longevity and neuroprotective applications are earlier-stage. We have flagged speculative areas throughout this guide so you can engage with the evidence honestly. Your prescriber can speak to the current state of research in more detail.

Is the quality of MOTS-c important?

Enormously. Unregulated online sources carry no quality guarantee and peptide purity varies wildly. The MOTS-c dispensed through our pharmacy partner is pharmaceutical grade — a completely different standard to research-chemical suppliers.

You are never navigating this alone.

WEBSITE & PORTAL

unearthed-wellness.com

BOOK A CONSULTATION

Via your patient portal

SUPPORT & ENQUIRIES

hello@unearthed-wellness.com

We respond to all messages within one business day. For urgent concerns, please contact your prescriber directly. You are never navigating this alone.

UNEARTHED WELLNESS

This document is for educational and supportive purposes only. It does not constitute medical advice and does not replace your prescriber's guidance. Always follow your personalised prescription. © Unearthed Wellness.
