

## PHYSICIAN WHITEPAPER

# MUSCLE DEFENSE™

A Physician-Guided Formula for Supporting Muscle Health, Strength & Healthy Aging

Formula per 1 mL (in MCT Oil):

- MK-2866 (Enobosarm) – 5 mg
- AC-262536 – 3.5 mg
- 5-Hydroxy- $\alpha$ -Laxogenin – 25 mg

Bottle Size: 30 mL

Designed for: Professional wellness and performance programs

### Executive Summary

Maintaining muscle mass and strength is one of the most powerful strategies for supporting healthy aging, mobility, resilience, and long-term performance.

Muscle Defense™ was developed as a physician-guided, multi-pathway muscle support formula for adults who want to stay strong, active, and physically capable as they age. It combines three complementary anabolic-support ingredients delivered in MCT oil for consistent absorption and flexible dosing.

This document summarizes how each ingredient supports muscle health and why the combination is uniquely positioned for modern longevity and performance-based clinical programs.

## 1) Why Muscle Health Is a Top Priority in Modern Medicine

Skeletal muscle is central to:

- Strength and functional independence
- Mobility and balance
- Metabolic performance
- Recovery capacity
- Healthy aging outcomes

Supporting muscle is not just about aesthetics—it is foundational to helping patients remain active, energetic, and capable across decades.

## 2) How Muscle Defense™ Supports Muscle (3-Part Strategy)

Muscle Defense™ is designed to support muscle through three synergistic mechanisms:

### A) Lean Mass Support

Helps promote the preservation and development of lean muscle tissue.

## B) Strength & Function Support

Supports functional performance markers that matter in daily life and athletic performance.

## C) Recovery & Resilience Support

Supports faster return to activity and improved training tolerance in active adults.

# 3) Ingredient Science

## 3.1 MK-2866 (Enobosarm) — Lean Mass & Functional Support

MK-2866 (Enobosarm) is widely recognized in research for its ability to support:

- Lean body mass
- Physical performance
- Functional strength outcomes

This makes it a valuable tool for physician-guided programs focused on maintaining strength and vitality.

Selected references:

- Dalton JT et al., Journal of Cachexia, Sarcopenia and Muscle, 2011
- Dobs AS et al., The Lancet Oncology, 2013

## 3.2 AC-262536 — Muscle-Selective Anabolic Support

AC-262536 is a research compound studied for its muscle-selective anabolic activity in preclinical investigation.

It is included to support:

- Targeted anabolic signaling
- Lean mass pathways
- Broader muscle support when paired with MK-2866

## 3.3 5-Hydroxy- $\alpha$ -Laxogenin — Myogenic & Anabolic Pathway Support

5-Hydroxy- $\alpha$ -Laxogenin is a plant-derived compound valued for its role in supporting:

- Myogenic signaling pathways
- Anabolic gene expression activity
- Overall muscle-building support

It complements androgen-receptor-based strategies by supporting muscle development pathways from an additional angle.

### **3.4 MCT Oil — Efficient Delivery & Consistent Use**

MCT oil is used as a clean, effective carrier to support:

- Consistent ingredient delivery
- Easy administration
- Reliable daily use in structured programs

### **4) Ideal Clinical Applications**

Muscle Defense™ fits naturally into physician-guided programs such as:

Longevity & Healthy Aging Programs

For adults prioritizing long-term strength, independence, and performance.

Strength Optimization Programs

For patients who want measurable improvements in training output and physical capability.

Active Recovery & Resilience Programs

For adults returning to training and seeking to rebuild strength and lean mass efficiently.

Metabolic Performance Programs

Because strong skeletal muscle supports energy utilization and physical endurance.

### **5) Best Results When Combined With Core Clinical Foundations**

Muscle Defense™ is most impactful when paired with:

- Progressive resistance training
- Adequate daily protein intake
- High-quality sleep and recovery
- A complete physician-guided wellness plan

### **6) Summary**

Muscle Defense™ is a modern, physician-guided formula built to support:

- ✓ Lean muscle development and preservation
- ✓ Functional strength and performance
- ✓ Recovery capacity and long-term resilience
- ✓ Healthy aging and physical independence

By combining MK-2866 (Enobosarm), AC-262536, and 5-Hydroxy- $\alpha$ -Laxogenin in an MCT oil delivery system, Muscle Defense™ provides a comprehensive approach to muscle support for today's longevity-focused clinical practice.

#### Selected Scientific References

Dalton JT, Barnette KG, Bohl CE, et al.

The selective androgen receptor modulator GTx-024 (enobosarm) improves lean body mass and physical function in healthy elderly men and postmenopausal women.

Journal of Cachexia, Sarcopenia and Muscle. 2011.

Dobs AS, Boccia RV, Croot CC, et al.

Effects of enobosarm on muscle wasting and physical function in patients with cancer.

The Lancet Oncology. 2013.

Cruz-Jentoft AJ, Sayer AA.

Sarcopenia.

The Lancet. 2019.

Morley JE, Anker SD, von Haehling S.

Prevalence, incidence, and clinical impact of sarcopenia: facts, numbers, and epidemiology.

Journal of Cachexia, Sarcopenia and Muscle. 2014.