9051 Mira Mesa Blvd, #910094
San Diego, CA 92191
Tel: 760-390-3989

MOTS-C

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HRM0072

Product Overview

Name	MOTS-C

Description

MOTS-C

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

The protein was lyophilized with no additives.

Stability

Lyophilized MOTS-C although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution MOTS-C should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 97.0% as determined by analysis by RP-HPLC.

Amino acid sequence

H-Met-Arg-Trp-Gln-Glu-Met-Gly-Tyr-Ile-Phe-Tyr-Pro-Arg-Lys-Leu-Arg-OH.

Solubility

It is recommended to reconstitute the lyophilized MOTS-C in sterile 18MΩ-cm H2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Background

Mitochondrial-derived peptide (MOTS-c) is a novel bioactive peptide that has recently emerged as a significant player in the field of metabolic regulation and longevity research. Also known as Humanin-like 13 (HN13), this peptide is encoded within the mitochondrial genome and has been associated with a variety of metabolic processes, including glucose metabolism, insulin sensitivity, and physical endurance. MOTS-c is unique in that it is one of the few known peptides encoded by the mitochondrial genome. This peptide has been shown to target the skeletal muscle and enhance insulin sensitivity, thereby playing a crucial role in glucose metabolism. Research by Lee et al. (2015) demonstrated that MOTS-c administration in mice led to improved metabolic profiles, including reduced weight gain and enhanced insulin sensitivity. The role of MOTS-c extends beyond metabolic regulation. Recent studies have suggested a potential role in aging and longevity. Kim et al. (2018) found that MOTS-c levels decrease with age in

humans, suggesting that this peptide may play a role in the aging process. Furthermore, the same study found that MOTS-c supplementation could extend the lifespan of mice, indicating its potential as a longevity-promoting agent. Given its role in metabolic regulation and potential effects on lifespan, MOTS-c has been proposed as a potential therapeutic target for a variety of conditions, including metabolic disorders, age-related diseases, and even cancer. For instance, a study by Lu et al. (2020) suggested that MOTS-c could suppress the growth of colorectal cancer cells, indicating its potential as a therapeutic agent in cancer treatment.: While the research on MOTS-c is still in its early stages, the findings so far are promising. This mitochondrial-derived peptide could revolutionize our understanding of metabolic regulation and aging. However, more research is needed to fully elucidate the mechanisms of action of MOTS-c and to translate these findings into therapeutic applications.

Precautions

MOTS-C is for research use only and not for use in diagnostic or therapeutic procedures.

Background

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