



MOTS - c

MOTS-c regulates skeletal muscle and fat metabolism leading to weight loss via fatty acid oxidation. Its actions include enhancing glucose metabolism, decreasing insulin resistance, enhancing glucose uptake in muscle, accelerating bone fracture healing, enhancing energy and performance which promotes exercise endurance, and encourages a promising effect on lifespan and longevity.

MOTS-c also acts as a potential mitochondrial signal that mediates an exercise-induced mitohormesis response, thereby stimulating physiological adaptation and increased tolerance to exercise.

MOTS-c increases the levels of carnitine shuttles, which transports activated fatty acids into the mitochondria for β -oxidation, increases the level of a β -oxidation intermediate, and reduces intracellular levels of essential and non-essential fatty acids, thus suggesting enhanced lipid utilization.

MOTS-c significantly and successfully reverses and reduces age-dependent skeletal muscle insulin resistance and non-fasting glucose levels and significantly improves the response in glucose tolerance tests.

MOTS-c is also implicated in longevity due to aging being associated with worsening mitochondrial function. Concomitantly, the development of aging-related diseases, such as diabetes and metabolic syndrome, occur due to the decline of circulating levels of MOTS-c with aging.

MOTS-c levels are also related to age-related metabolic deterioration and regulation of lifespan.

MOTS-c also accelerates bone healing by stimulating osteogenesis of bone marrow stem cells via positively regulating FOXF1 to activate the TGF- β pathway.

