

MOTS-c(Human) Acetate (1627580-64-6 free)

Chemical Properties

CAS No. :

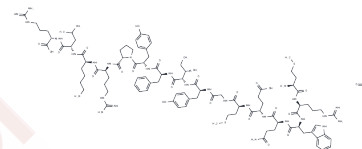
Formula: C103H156N28O24S2

Molecular Weight: 2234.64

Keep away from moisture

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	MOTS-c(Human) Acetate is a mitochondrial-derived peptide. MOTS-c(human) acetate induces the accumulation of AMP analog AICAR, increases activation of AMPK and expression of its downstream GLUT4. MOTS-c(human) acetate induces glucose uptake and improves insulin sensitivity. MOTS-c(human) acetate has implications in the regulation of obesity, diabetes, exercise, and longevity.
Targets(IC50)	AMPK
In vitro	MOTS-c inhibits the folate cycle at the level of 5Me-THF, resulting in an accumulation of AICAR [5-aminoimidazole-4-carboxamide ribonucleotide). MOTS-c also increases cellular NAD+ levels, which are also nucleotide precursors[1].
In vivo	MOTS-c injections in mice show activation of skeletal muscle AMPK and increased the level of its downstream glucose transporter GLUT4. MOTS-c may also act as a potential mitochondrial signal that mediates an exercise-induced mitohormesis response, thereby stimulating physiological adaptation and increased tolerance to exercise[1].

Solubility Information

Solubility	DMSO: 10 mM, Sonication is recommended. H2O: 20 mg/mL (8.95 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.4475 mL	2.2375 mL	4.475 mL
5 mM	0.0895 mL	0.4475 mL	0.895 mL
10 mM	0.0447 mL	0.2237 mL	0.4475 mL
50 mM	0.0089 mL	0.0447 mL	0.0895 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Lee C, Kim KH, Cohen P. MOT5-c: A novel mitochondrial-derived peptide regulating muscle and fat metabolism. Free Radic Biol Med. 2016;100:182-187. doi:10.1016/j.freeradbiomed.2016.05.015

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