

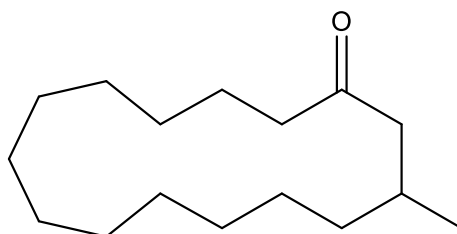
Catalog # 10-2757

Muscone

CAS# 541-91-3

(±)-3-Methylcyclopentadecanone

Lot # X101972



Muscone is a macrocyclic ketone found naturally in a glandular secretion of the musk deer which acts at human odorant receptor OR5AN1 and is used in perfumes.¹ It suppresses inflammatory responses and neuronal damage in various models including a rat model of cervical spondylotic myelopathy² and relieves inflammatory pain acting via the NOX4/JAK2-STAT3 and NLRP3 inflammasome pathway³. In the cardiovascular system it alleviates myocardial ischemia-reperfusion injury⁴ and improves cardiac function in mice after myocardial infarction⁵ via enhancement of angiogenesis⁶.

- 1) Ahmed et al. (2018), *Molecular mechanism of activation of human musk receptors OR5AN1 and OR1A1 by (R)-muscone and diverse other musk-smelling compounds*; Proc. Natl. Acad. Sci. USA **115** E3950
- 2) Zhou et al. (2020), *Muscone suppresses inflammatory responses and neuronal damage in a rat model of cervical spondylotic myelopathy by regulating Drp1-dependent mitochondrial fission*; J. Neurochem. **155** 154
- 3) Yu et al. (2020), *Muscone relieves inflammatory pain by inhibiting microglial activation-mediated inflammatory response via abrogation of the NOX4/JAK2-STAT3 pathway and NLRP3 inflammasome*; Immunopharmacol. **82** 106355
- 4) Wei et al. (2021), *Muscone alleviates myocardial ischemia-reperfusion injury via inhibition of oxidative stress and enhancement of SIRT3*; J. Neurochem. **155** 154
- 5) Yu et al. (2020), *Muscone improves cardiac function in mice after myocardial infarction by alleviating cardiac macrophage-mediated chronic inflammation through inhibition of NF-κB and NLRP3 inflammasome*; J. Biol. Regul. Homeost. Agents **35** 85
- 6) Du et al. (2018), *Hypoxia-Inducible Factor 1 alpha (HIF-1α)/Vascular Endothelial Growth Factor (VEGF) Pathway Participates in Angiogenesis of Myocardial Infarction in Muscone-Treated Mice*; Am. J. Transl. Res. **10** 4235

PHYSICAL DATA

Molecular Weight:	238.42
Molecular Formula:	C ₁₆ H ₃₀ O
Purity:	>98% by TLC
	NMR: (Conforms)
Solubility:	Soluble in DMSO (35 mg/ml); Ethanol (35 mg/ml)
Physical Description:	Colorless oil
Storage and Stability:	Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in DMSO or ethanol may be stored at -20°C for up to 1 month.

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