

PRODUCT INFORMATION



MC3482 (trifluoroacetate salt)

Item No. 43725

Formal Name: (3S,12S)-12-carboxy-9,14-dioxo-16-phenyl-3-[(phenylamino)carbonyl]-15-oxa-2,8,13-triazahexadecanoic acid, 1-(phenylmethyl) ester, trifluoroacetate salt

MF: C₃₃H₃₈N₄O₈ • XCF₃COOH

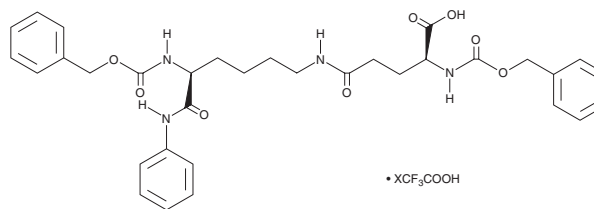
FW: 618.7

Purity: ≥85%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

MC3482 (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the MC3482 (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. MC3482 (trifluoroacetate salt) is soluble (≥10 mg/ml) in DMSO. MC3482 (trifluoroacetate salt) is sparingly soluble (1-10 mg/ml) in ethanol.

Description

MC3482 is an inhibitor of sirtuin 5 (SIRT5).¹ It is selective for SIRT5 over SIRT1 and SIRT3 at 50 μM. MC3482 (50 μM) induces autophagy and mitophagy in MDA-MB-231 cells and decreases lipid droplet size and increases lipolysis and the oxygen consumption rate (OCR) in differentiated 3T3-L1 adipocytes.^{1,2} *In vivo*, MC3482 (2 mg/kg) decreases brain water content, infarct volume, and neurological deficits in a mouse model of cerebral ischemia induced by middle cerebral artery occlusion (MCAO).³ It decreases airway hyperresponsiveness, serum IgE levels, neutrophil and eosinophil bronchoalveolar lavage fluid (BALF) infiltration, epithelial hyperplasia, and mucus production in a mouse model of toluene-2,4-diisocyanate-induced asthma.⁴ MC3482 increases the paw withdrawal threshold in a mouse model of complete Freund's adjuvant-induced inflammatory pain.⁵

References

1. Polletta, L., Vernucci, E., Carnevale, I., *et al.* SIRT5 regulation of ammonia-induced autophagy and mitophagy. *Autophagy* **11**(2), 253-270 (2015).
2. Molinari, F., Feraco, A., Mirabilii, S., *et al.* SIRT5 inhibition induces brown fat-like phenotype in 3T3-L1 preadipocytes. *Cells* **10**(5), 1126 (2021).
3. Xia, Q., Yu, Y., Zhan, G., *et al.* The sirtuin 5 inhibitor MC3482 ameliorates microglia-induced neuroinflammation following ischaemic stroke by upregulating the succinylation level of annexin-A1. *J. Neuroimmune Pharmacol.* **19**(1), 17 (2024).
4. Wu, J., Wang, Y., Zhang, Q., *et al.* SIRT5 regulates fatty acid oxidation and mitochondrial oxidative stress to exacerbate airway inflammation in experimental asthma. *Cell. Signal.* **136**, 112149 (2025).
5. Zuo, C.-Y., Gou, C.-Y., Zhang, C.-S., *et al.* Role of SIRT5 in the analgesic effectiveness of moxibustion at ST36 in mice with inflammatory pain. *Heliyon* **9**(7), e17765 (2023).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

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