

mycocerosate synthase

Cat. No. EXWM-2050

Lot. No. (See product label)

Introduction

Description This mycobacterial enzyme loads long-chain fatty acyl groups from their CoA esters and extends them by incorporation of three or four methylmalonyl (but not malonyl) residues, to form tri- or tetramethyl-branched fatty-acids, respectively, such as 2,4,6,8-tetramethyloctacosanoate (C32-mycocerosate). Since the enzyme lacks a thioesterase domain, the products remain bound to the enzyme and require additional enzyme(s) for removal. Even though the enzyme can accept C6 to C20 substrates in vitro, it prefers to act on C14-C20 substrates in vivo.

Synonyms mas (gene name); mycocerosic acid synthase; acyl-CoA:methylmalonyl-CoA C-acyltransferase (decarboxylating, oxoacyl- and enoyl-reducing)

Product Information

Form Liquid or lyophilized powder

EC Number EC 2.3.1.111

CAS No. 95229-19-9

Reaction (1) a long-chain acyl-CoA + 3 methylmalonyl-CoA + 6 NADPH + 6 H⁺ + mycocerosate synthase = a trimethylated-mycocerosoyl-[mycocerosate synthase] + 4 CoA + 3 CO₂ + 6 NADP⁺ + 3 H₂O; (2) a long-chain acyl-CoA + 4 methylmalonyl-CoA + 8 NADPH + 8 H⁺ + mycocerosate synthase = a tetramethylated-mycocerosoyl-[mycocerosate synthase] + 5 CoA + 4 CO₂ + 8 NADP⁺ + 4 H₂O

Notes This item requires custom production and lead time is between 5-9 weeks. We can custom produce according to your specifications.

Storage and Shipping Information

Storage Store it at +4 °C for short term. For long term storage, store it at -20 °C~-80 °C.