



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

Product Information

4-Methylumbelliferyl heptanoate

Product Number **M 2514**

Storage Temperature -0 °C

Product Description

Molecular Formula: $C_{17}H_{20}O_4$

Molecular Weight: 288.3

CAS Number: 18319-92-1

Melting Point: 41 - 42 °C

Synonym: 4-Methylumbelliferyl enanthate

This product is a sensitive fluorogenic substrate for the measurement of acid and alkaline lipase activity.^{1,2} When this product is used as a substrate for lipase, the released methylumbelliferone is monitored at 450 nm. The excitation wavelength is 330 nm at pH 4.6, 370 nm at pH 7.4 and 385 nm at pH 10.4.¹

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in pyridine (50 mg/ml), yielding a clear, colorless solution.

When used as a lipase substrate, stock preparations of substrate were made by dissolving the appropriate amount of acylated 4-MU in 1.5 ml methyl cellosolve and diluting to 25 ml with distilled water for a final concentration of 1 mM ester. The esters do not stay in solution. Some esters form homogeneous emulsions, and the butyryl ester slowly crystallized from a clear solution.¹

References

1. Jacks, T. J., and Kircher, H. W., Fluorometric assay for the hydrolytic activity of lipase using fatty acyl esters of 4-methylumbelliferone. Anal. Biochem., **21(2)** 279-285 (1967).
2. Guilbault, G.G., and Hieserman, J., Fluorometric substrate for sulfatase and lipase. Anal. Chem. **41**, 2006-2009 (1969).

MES/NSB 1/04

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.