

# Certificate of Analysis

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**Product Name:** LaKe

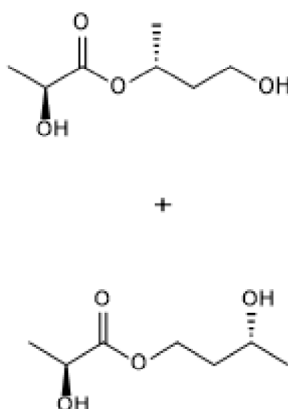
**Catalog No.:** 8888

**Batch No.:** 1

**IUPAC Name:** (3*R*)-3-Hydroxybutyl (2*S*)-2-hydroxypropanoate and (1*R*)-3-Hydroxy-1-methylpropyl (2*S*)-2-hydroxypropanoate

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>7</sub>H<sub>14</sub>O<sub>4</sub>  
**Batch Molecular Weight:** 162.19  
**Physical Appearance:** Colourless oil  
**Solubility:** DMSO to 100 mM  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**GC:** Shows 98.3% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

LaKe is a metabolite that undergoes hydrolytic conversion to yield (S)-lactate (Lac) and (R)-1,3-butanediol (BHB) in cells, two metabolites naturally released during strenuous exercise and prolonged fasting. In vivo, oral ingestion of LaKe in rats, results in an increase of Lac and BHB plasma levels, triggering reduced lipolysis and elevation of the appetite-suppressing compound Lac-Phe (Cat. No. 7942).

**Physical and Chemical Properties:**

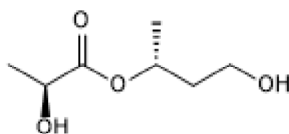
Batch Molecular Formula: C<sub>7</sub>H<sub>14</sub>O<sub>4</sub>

Batch Molecular Weight: 162.19

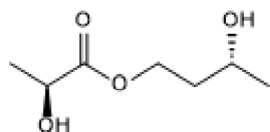
Physical Appearance: Colourless oil

**Minimum Purity:** ≥95%

**Batch Molecular Structure:**



+



**Storage:** Store at -20°C

**Solubility & Usage Info:**

DMSO to 100 mM

This product is supplied as a mixture of two isomers that are in dynamic equilibrium. The ratio of isomers depends upon a number of variables and may vary from batch to batch. The exact ratio is not expected to have any bearing on the performance of the product.

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. \*Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**Licensing Information:**

Sold under license from Mmimetika Biosciences

**References:**

Ottosen *et al* (2024) Preparation and preclinical characterization of a simple ester for dual exogenous supply of lactate and beta-hydroxybutyrate. J.Agric.Food Chem. **72** 19883. PMID: 39214666.

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