

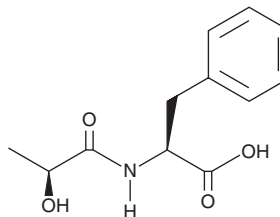
# PRODUCT INFORMATION



## Lactoyl Phenylalanine

Item No. 37304

**CAS Registry No.:** 183241-73-8  
**Formal Name:** N-[(2S)-2-hydroxy-1-oxopropyl]-L-phenylalanine  
**Synonyms:** Lac-Phe, N-Lactoyl-Phenylalanine  
**MF:** C<sub>12</sub>H<sub>15</sub>NO<sub>4</sub>  
**FW:** 237.3  
**Purity:** ≥95%  
**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

Lactoyl phenylalanine is supplied as a solid. A stock solution may be made by dissolving the lactoyl phenylalanine in the solvent of choice, which should be purged with an inert gas. Lactoyl phenylalanine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of lactoyl phenylalanine in these solvents is approximately 20, 14, and 25 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of lactoyl phenylalanine can be prepared by directly dissolving the solid in aqueous buffers. The solubility of lactoyl phenylalanine in PBS (pH 7.2) is approximately 0.30 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Lactoyl phenylalanine is a secondary metabolite.<sup>1</sup> It is formed from lactate and phenylalanine by cytosolic non-specific dipeptidase (CNDP2). Lactoyl phenylalanine (50 mg/kg per day) decreases food intake, body weight, and adiposity, as well as improves glucose homeostasis in a mouse model of high-fat diet-induced obesity. Plasma levels of lactoyl phenylalanine are increased following exercise in mice.

### Reference

1. Li, V.L., He, Y., Contrepois, K., *et al.* An exercise-inducible metabolite that suppresses feeding and obesity. *Nature* **606**, 785-780 (2022).

#### 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.

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