

This is a provisional English translation of an excerpt from the original full report.

## Safety Assessment Report

### Lipase produced using *pLps* strain (Genetically Modified Food)

Food Safety Commission of Japan (FSCJ)  
January 2026

#### ABSTRACT

The FSCJ conducted a safety assessment of “Lipase produced using *pLps* strain”.

This additive is a lipase produced using the *pLps* strain, which was developed by introducing a lipase transgene derived from *Streptomyces thermoviolaceus* NBRC 13905 strain, a promoter derived from *Streptomyces cinnamoneus* TH-2 strain, and a terminator derived from *Streptomyces cinnamoneus* NBRC 12852 strain *etc.*, into *Streptomyces violaceoruber* 1326 strain as a host. This additive is an enzyme that hydrolyzes the ester bonds of glycerol and fatty acids in glycerides to release fatty acids. This additive has the characteristic of predominantly releasing short-chain fatty acids and is used in processes such as bread making as a substitute for emulsifiers to minimize the development of undesirable flavors.

Since natural gene exchanges are considered to occur among *S. violaceoruber*, *S. cinnamoneus*, *S. thermoviolaceus*, and *S. azureus*, it is considered that live cells having the same genome structure as the *pLps* strain could exist in the natural environment.

Regarding this additive, FSCJ concluded that a safety assessment was unnecessary because it is produced using a microorganism that falls into "Cases in which Live Cells Having Same Genome Structure as the Genetically Modified Organism Exist in Natural Environment," stated in Chapter 1: General Provisions, Section2 “Objective and Target Additives” of “Guidelines for Safety Assessments of Food Additives Produced Using Genetically Modified Microorganisms<sup>1</sup>”.

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<sup>1</sup> Decision of FSCJ, March 25, 2004