



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

Safety Assessment Report

Polyphenol oxidase produced using JPAo010 strain

(Genetically Modified Food)

Food Safety Commission of Japan (FSCJ)

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ABSTRACT

The FSCJ conducted a safety assessment of “Polyphenol oxidase produced using the JPAo010 strain”.

This additive is a polyphenol oxidase (laccase) produced using the JPAo010 strain, which is developed by introducing a polyphenol oxidase transgene derived from the *Thermothelomyces thermophilus* CBS 117.65 strain into the *Aspergillus oryzae* IFO4177 strain as a host. Among polyphenol oxidases, laccase is an enzyme that catalyzes the reduction of oxygen to water and the oxidation of phenols to quinones. Since quinones exhibit deodorizing effects by reacting with odor components including sulfur compounds, etc., this additive is used for chewing gum and other confectionery products to provide deodorizing effects in the mouth.

The safety assessment was conducted referring to the “Standards for Safety Assessments of Food Additives Produced Using Genetically Modified Microorganisms¹”. Specifically, evaluations were made on the donor of the inserted gene, the safety of the inserted gene including the identification of its base sequence, and the toxicity and allergenicity of the protein produced from the inserted gene. From these results, no additional factors were found that could impair safety when compared to conventional additives.

Therefore, it has been concluded that “Polyphenol oxidase produced using the JPAo010 strain” is unlikely to pose safety concerns relevant to human health.

¹ Decision of the FSCJ dated March 25, 2004