

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

Risk Assessment Report **Feed additives composed of alkaline protease as the source material** (Feed Additives)

Food Safety Commission of Japan (FSCJ)
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ABSTRACT

In relation to amendment of standards and specifications for feed additives pertaining to alkaline protease produced by *Bacillus licheniformis* JPBL001 strain, and amendment of standards for feeds which contain the said additive, FSCJ conducted a risk assessment of feed additives composed of the relevant alkaline protease as the active substance using the documents of the request for designating it as a feed additive.

Feed additives composed of alkaline protease produced by *Bacillus licheniformis* JPBL001 strain as the active substance are available in two types of formulations, solid and liquid preparations, and the recommended addition of these additives is instructed to be 15,000 proteinase unit (PROT) per 1 kg of feeds for chicken (equivalent to 24,000 protein digestive activity).

While pharmacokinetics and residue studies of this alkaline protease were not conducted, this protease was digested by 30 min treatments with artificial gastric juice in a digestion test.

FSCJ considered that this alkaline protease is of no genotoxic concern relevant to human health since two *in-vitro* tests in genotoxicity studies were negative in addition to the result from digestion test.

No toxic effect of this protease administration was observed in a 13-week sub-acute toxicity study, thus FSCJ specified the NOAEL in this study as 500.1 mg TOS/kg bw/day (287,469 PROT/kg bw/day equivalent) which was the highest dose.

In a chicken feeding trial of this feed additive, oral administration of the dose ten times as much as the recommended addition (150,000 PROT/kg feed) resulted no adverse effect.

Regarding the additives used in this product, FSCJ concludes that, considering the usage, existing toxicity data, and the dosage and administration, the risk to human health from the intake of these additives as ingredient of this product is negligible.

Hence, FSCJ concluded that feed additives composed of alkaline protease produced by *Bacillus licheniformis* JPBL001 strain as the active substance are considered to be of no concern for food safety as long as used appropriately as a feed additive.

This alkaline protease has been also requested the assessment of safety of genetically modified feed additives by the Ministry of Agriculture, Forestry and Fisheries(MAFF), based on provision 2-2 in the appendix of the Ministerial Ordinance regarding the standards for feed and feed additives (MAFF Ordinance No. 35, 1976). Therefore, conclusion of relevant risk assessment should be taken into consideration for handling of this feed additive in the MAFF.