

PROTERIA® CV

IN SOY BURGER APPLICATION



KEY BENEFITS

- Inhibition of microbial growth
- Maintains culinary freshness
- Increases microbial food stability
- Cost effective
- Shelf-life extension
- Clean Label

NATURAL ANTIMICROBIAL IN VEGAN SOY-BASED BURGER PATTY

Traditionally, potassium sorbate and sodium benzoate are used as preservatives to extend the shelf-life of plant-based food products. Consumer preferences show how demand is changing, making manufacturers opt for all-natural ingredients that they can trust. In addition, labelling has become a crucial tool for recognizing and selecting products, bringing clean-label and consumer-friendly options to the fore.

At Handary, we have developed Proteria®CV, a natural product capable of prolonging the shelf-life of plant-based burgers, among other foods. This product is composed of natural weak acid metabolites produced by fermenting sugar with food culture and mixing it with distilled vinegar. It is mainly used to improve the qualitative stability and prevent microbial spoilage of culinary foods. That is why we wanted to test its effectiveness in soy burgers, demonstrating to effectively inhibit the growth of spoilage bacteria during the shelf life of these vegan burgers without compromising their quality, freshness and sensory characteristics.

Finally, Proteria®CV has been widely accepted as a clean label alternative to synthetic preservatives.

OUR BRANDS

PROTERIA® CV
Fermented Cane Sugar



	Proteria® CV
Code	0603
Registration Number	Clean Label
Organoleptic Impact	No Impact
Source	Non-GMO, Renewable
Thermal Stability	Up to 121°C
Applicable pH	2 - 9
Recommended Dosage	10-30ml/Kg
Packing Size	1L, 20L
Appearance	Brownish Liquid
Labelling	Fermented Cane Sugar

CASE STUDIES

Food spoilage has been a problem for manufacturers, sellers, and consumers due to health-related concerns. Soy burger shelf-life is primarily limited by spoilage bacteria, such as *Lactobacillus* spp., causing unpleasant acidic tastes and odours, gas, and other signs of visual damage.

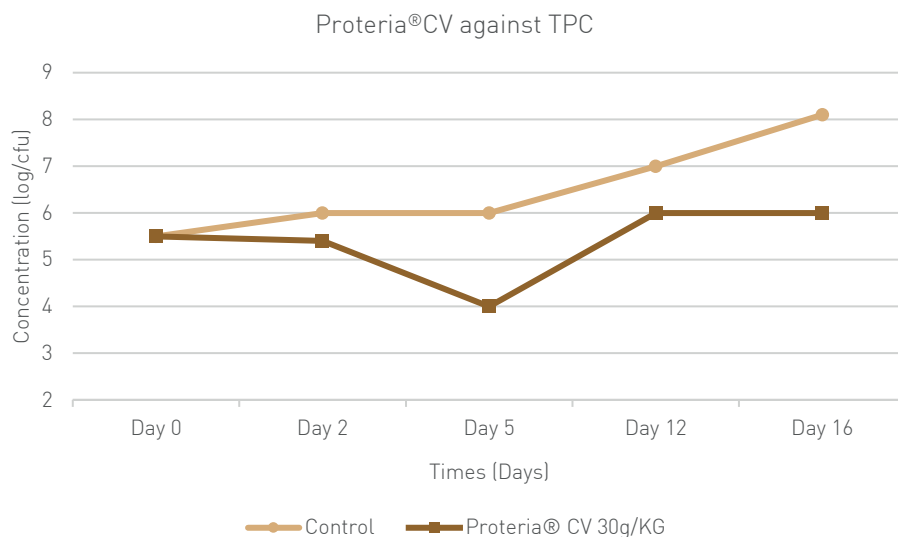
Soy-based burgers are made with soy or soy-derived protein. The intrinsic factors of the soy burger, such as the high activity of the water and a pH between 5.5 and 7.2, favour the growth of bacteria, yeasts and moulds. Although the soy burger is generally packed in a modified atmosphere package (MAP), we can find on the market natural products such as Proteria®CV, capable of extending the shelf life of the soy burger by more than 16 days.

PROTERIA® CV : SOY-BASED BURGER PATTY SHELF-LIFE EXTENSION

In the graph that you can find below, we show the results of the microbial analysis for the total plate count (TPC) in vegan soy-based burgers carried out by Handary.

In the study, we wanted to compare the microbial load of the soy burgers by comparing a control sample with one treated with 30 g/kg of Proteria®CV, later storing them at 4 °C.

Control samples, without the addition of natural or chemical preservatives, reached an undesirable level of bacterial count after 11 days of storage. However, samples treated with Proteria®CV showed a potential to extend the shelf-life by more than 16 days, thus showing an acceptable bacterial record even on day 16 itself.



CONCLUSION

In general, these plant-based food products have a shelf life of 10 days when stored in MAP and at refrigerated temperatures. However, with the use of Proteria®CV, these products can last up to 16 days in perfect conditions.

Therefore with this study, we wanted to show the efficacy of Handary's Proteria®CV as an effective natural clean-label solution to increase the microbial stability and shelf-life of vegan soy-based burgers.



APPLICATION GUIDELINE

The following guideline will assist you to get the optimum solution by using Handary Proteria® CV fermented cane sugar to effectively and naturally extend the microbial stability and the shelf-life of a vegan soy-based burger patty.

The recommended doses of Proteria® CV are added along with the other dry ingredients at the beginning of the mixture of the soy-based hamburger formulation. Dosages ranging between 10 and 30 g of Proteria® CV are added for every kilo of the final product.

1. Direct Addition Into Soy Burger Formulation

Follow the suggested dosages to apply Proteria® CV directly into soy patty formulation.

Ingredient	Application		Benefits	Dosage
Proteria® CV	Plant-Based Foods	Vegan Soy Burger Patty	Growth control and stability of Total Plate Count (TPC)	10 – 30 g/kg

2. Vegan Soy-Based Burger Patty Manufauaring Process

Follow the representative production process flow chart of soy burger patty and the recommended stage of product incorporation to get the best efficiency for Proteria® CV application.

