**Probiotic effects**

The use of Bacillus coagulans as probiotic offers great opportunities in the area of probiotics because of their spore forming ability and enhanced survival in harsh and adverse conditions. *Bacillus coagulans* has been reported to support healthy digestive (Kalman et al., 2009) and immune function (Nyangale et al., 2015), including increased protein absorption (Maathuis, Keller, & Farmer, 2010).

**Proteins digestion & absorption**

Once active in the small intestine after germination, *B. coagulans* shall aid in digestion of proteins and sugars from the diet. This may be beneficial to the host, especially in the case of lactose and fructose intolerance: once the sugars are digested in the upper gastro-intestinal (GI) tract, they will no longer cause the symptoms associated with the intolerance in the lower part of the gut. To determine the effect of *B. coagulans* in digestion of lactose and milk protein, 3 billion CFU of *B. coagulans* spores were introduced into 200 ml of a lactose solution (5% w/v in water), a fructose solution (5% w/v in water), or milk.

The amount of milk protein available for absorption during the experiment with milk only was 3.5 g. The addition of *Bacillus coagulans* to the milk gave a somewhat higher result of 3.7 g (Figure 3).

![Figure 3: cumulative amount of the bio-accessible fraction of protein in TIM1 with and without the addition of *B. coagulans*.](image)

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6. In Silico Prediction and In Vitro Assessment of Multifunctional Properties of Postbiotics Obtained From Two Probiotic Bacteria.

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