

### **Tamarind-Ginger Munch (Tamzin)**

A dietary supplement based on ginger and tamarind in combination with other natural ingredients for relieving motion sickness was developed and evaluated. The proximate composition, polyphenols and vitamins content of the product were determined. The average values for moisture, carbohydrate, crude protein, fat, ash and crude fiber were 3.9, 85, 5.9, 1.4, 1.7 and 1.8%, respectively. In general, the sensory characteristics of both fresh and 6 month stored products had overall acceptability values of 8.5 and 7.9, respectively, on a 9-point hedonic scale. The extract also inhibited the histamine release in KU812 cells and showed no adverse effects measured using 3-(4,5-dimethyl-2-yl)-2,5-diphenyltetrazolium bromide and lactate dehydrogenase leakage assays.



Seven-day oral administration of Tamzin aqueous extract to BALB/c mice significantly reduced the rotation-induced gastrointestinal symptoms such as conditioned gaping, defecation levels and locomotion activity. The development and evaluation of a natural formulation, Tamzin, for attenuating MS was studied. TE reduced MS by inhibiting the gastrointestinal symptoms, and this may be due to suppression of the peripheral autonomic nervous system and central vestibulo-autonomic pathways. The results with TE were also relatively close to that of scopolamine for the various parameters of the animal experiments. The functional properties of Tamzin may be due to the additive effects of the various phytochemicals. Moreover, as these ingredients are consumed as part of the normal diet, the chance of causing harmful effects, as compared to the pharmacological drugs and other anti-emetic medications including scopolamine, is also minimal. Overall, the Tamzin, made of dietary ingredients, could be a preferred alternative to the conventional motion-sickness medications.