

Food Processing & Technology

October 27-29, 2016 Rome, Italy

Chemical and toxicological characteristics of bio-activated peanut sprout powder applied as dietary supplements to extend mouse longevity

Robin Y Y Chiou

National Chiayi University, Taiwan

In addition to general names, “peanut also named life longer nut” has been recorded in old Chinese archives and attracted research interest. In this study, wound-stress was applied to enhance biosynthesis of stilbenoids in preparation of bio-activated peanut sprout powder (BPSP). Through medium pressure liquid chromatographic fractionation and followed by semi-preparative HPLC purification, two new stilbenoids, namely, arahypin 16 and arahypin 17 along with 5 known stilbenoids, i.e., resveratrol, arachidin-1, arachidin-3, isopentadienylresveratrol and arahypin 5 were isolated and identified. After subjection of the 7 stilbenoids to antiglycative activity determination, all have exhibited inhibitory activities and varied with structure-activity nature. When BPSP was supplemented with normal diets at doses up to 6.4 g/kg b. w. and used to feed male and female ICR mice for 28 days, changes of the body weights, relative organ weights, blood and biochemical analyses revealed no obvious health hazard or acute toxicity. In longevity assessments, 11-mon-old BALB/c and 12-mon-old ICR mice were respectively fed with BPSP-supplemented diets at doses of 0 (control), 0.1 and 0.5 g BPSP/kg b. w. for 750 and 762 days, based on the resultant survival curves and average lifespans, it is of merit to demonstrate that BPSP was effective to extend mouse longevity by a dose-dependent manner and of potency to be a health enhancing ingredient.

Biography

Robin Y Y Chiou has completed his PhD in 1985 from Department of Food Science, University of Georgia, USA. He is a distinguished Professor with Department of Food Science, National Chiayi University. He has published more than 120 papers in scientific periodicals and 2012 Fellow of American Peanut Research and Education Society.

rychiou@mail.ncyu.edu.tw

Notes: