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## The 90-day oral toxicity study on locally developed GM potato line 2-1 in Sprague Dawley rats

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The genetically modified (GM) *Solanum tuberosum* line 2-1 obtained by transforming an *E. coli* phytase gene into CK line was developed by Dr. Su-May Yu team in the Institute of Molecular Biology, Academia Sinica, Taiwan. The food safety assessment of the transgenic potato line 2-1 was conducted in Sprague Dawley rats by a 90-days feeding study. Potatoes from line 2-1 and parental potato line CK were incorporated into rodent diets at 67% and administered to Sprague Dawley rats (n=10/sex/group) for 90 days. The rodent diet containing corn starch was fed to an additional group as blank group. The measured parameters included clinical observation, body weight, feed consumption, clinical pathological toxicity (urea, blood and serum) and tissue pathological changes (organ weights and histopathological examination). All rats survived the 90-day feeding trial. The treatment group retained normal activity and did not show any toxic signs. Most measured parameters were normal. No significant toxic or dose-related effect on rats fed transgenic potato line 2-1 was detected in microscopic observations for histopathologic evaluation. However, significant differences were observed in the body weight gain, food consumption, hematology, blood biochemical indices and organ weights between the control and treatment groups, but the differences were within the normal range. In conclusion, the feeding trial performed with locally developed transgenic potato line 2-1 at a level of 67% in the diet does not lead to toxicologically relevant effects in male and female Sprague Dawley rats after a 90-day exposure. The results demonstrated that the genetic modification does not cause adverse effect on the parental potato CK line.

### Biography

Wen Shen Chu has completed his PhD from University of Minnesota. He is the Deputy Director of Bioresource Collection and Research Center, Food Industry Research and Development Institute, a non-profit research organization. He has published more than 30 papers in reputed journals.

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