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RESEARCH SHEDS LIGHT ON THE ABSORPTION OF POLYPHENOLIC COMPOUNDS IN MANGOS TO DETERMINE POTENTIAL BENEFITS TO HUMAN HEALTH

Orlando, FL (February 16, 2016) – Mangos contain numerous compounds that have been shown to exhibit antioxidant properties. These compounds include vitamin C and beta carotene, as well as several polyphenolic compounds including gallic acid and their larger polymers gallotannins, that have been linked to anti-cancer and anti-inflammatory activities in previous in vitro and in vivo studies [1-3].¹

The absorption, metabolism, and excretion of mango galloyl derivatives have not previously been investigated in humans. In this human pilot trial published in the journal of [Molecular Nutrition & Food Research](#), 11 healthy volunteers between the ages of 21 and 38 years old consumed 400g/day of mango-pulp for 10 days, with blood and urine samples taken on days one and 10 of the study following mango consumption. Participants refrained from consuming dietary supplements and foods which could be sources of gallic acid such as berries, grapes, and tea for one week prior to the beginning of the study and during the 10 days of mango consumption.

“In order to determine if these polyphenolic compounds have potential benefits to human health at realistic food consumption amounts, it was first necessary to study how these compounds are metabolized in the body,” said lead researcher Susanne Mertens-Talcott, Ph.D. of the Department of Nutrition and Food Science, Texas A&M University.

Seven metabolites of gallic acid were identified in the urine of healthy volunteers, and of those two microbial metabolites were found to be significantly more excreted following 10 days of mango consumption. The presence of gallic acid and pyrogallol metabolites in human urine after the consumption 400g of mango indicates the absorption, metabolism, and excretion of mango galloyl derivative and confirms the bioavailability of these mango-derived metabolites.

“The results of this research show that mango has the potential to enhance the diet as a source of gallic acid and gallotannins which may possess anti-inflammatory and anti-carcinogenic properties,” said Dr. Mertens-Talcott.

About National Mango Board

The National Mango Board is an agriculture promotion group, which is supported by assessments from both domestic and imported mangos. The board was designed to drive awareness and consumption of fresh mangos in the U.S. The superfruit mango contains 100 calories, an excellent source of vitamins A and C, a good source of fiber and an amazing source of tropical flavor. Learn more at www.mango.org.

[1] Noratto, G. D., Bertoldi, M. C., Krenek, K., Talcott, S. T., *et al.*, Anticarcinogenic Effects of Polyphenolics from 352 Mango (*Mangifera indica*) Varieties. *Journal of Agricultural and Food Chemistry* 2010, 58, 4104-4112. 353

[2] Percival, S. S., Talcott, S. T., Chin, S. T., Mallak, A. C., *et al.*, Neoplastic Transformation of BALB/3T3 Cells and 354 Cell Cycle of HL-60 Cells are Inhibited by Mango (*Mangifera indica* L.) Juice and Mango Juice Extracts. *The 355 Journal of Nutrition* 2006, 136, 1300-1304. 356

[3] Kaur, M., Velmurugan, B., Rajamanickam, S., Agarwal, R., Agarwal, C., Gallic Acid, an Active Constituent of 357 Grape Seed Extract, Exhibits Anti-proliferative, Pro-apoptotic and Anti-tumorigenic Effects Against Prostate 358 Carcinoma Xenograft Growth in Nude Mice. *Pharm Res* 2009, 26, 2133-2140.