Pei-Sheng Lee, Med Aromat Plants 2017, 6:6 (Suppl)
DOI: 10.4172/2167-0412-C1-015

Garcinol reduces obesity in C57BL/6 mice by modulating the composition of the gut microbiota

Pei-Sheng Lee
National Taiwan University, Taiwan

Diet-induced obesity becomes a major health problem worldwide which is associated with low grade chronic inflammation and intestinal dysbiosis. This study was conducted to investigate the chemo-preventive effects of garcinol, a polyisoprenylated benzophenone derivative isolated from the fruit rind of *Garcinia indica*. The dried rind of *G. indica* (Kokum) is used as a garnish for curry and in traditional medicine in India for the treatment of inflammatory and infectious diseases. The results showed that garcinol reduced mouse body weight in a dose dependent manner without affecting food intake. Dietary garcinol also effectively decreased relative perigonadal, retroperitoneal and mesenteric fat weight in High Fat Diet (HFD) fed mice. Furthermore, garcinol markedly reduced the serum levels of Glutamate Pyruvate Transaminase (GPT), Total Cholesterol (TC) and Triacylglycerol (TG). Our data indicate that garcinol not only reverses HFD induced gut dysbiosis as indicated by the decreased firmicutes:bacteroidetes ratios but also maintains intestinal barrier integrity by increasing intestinal probiotics *Akkermansia*. Taken together, these results demonstrated for the first time that garcinol prevented HFD induced obesity and may be used as novel agents to prevent gut dysbiosis and obesity related metabolic disorders.

Biography

Pei-Sheng Lee is currently pursuing her PhD in National Taiwan University, Institute of Food Science and Technology. Her research interest is in colorectal cancer and obesity.

peisheng7@gmail.com

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