Use this page to provide an abstract (up to 350 words) outlining the research described in your poster. **This OUTLINE MUST BE APPROVED AND SIGNED BY THE DEPARTMENT HEAD OR MAJOR PROFESSOR.** (Note: *email notification by your advisor to Ms. Debbie Koch can be substituted for the signature)*

Abstract

Title: Effect of Aged Citrus Peel (Chenpi) Extract On Modulation of Gut Microbiota from High-Fat Diet Induced Obese Mice

Scope: The aged citrus peels, namely chenpi in Chinese, are used as traditional medicine for digestive disorders and dietary supplement in China for a long time. The anti-obesity effect of chenpi was previously reported to result from the activation of AMP-activated protein kinase and inhibition the transcription factors/ protein expression involved in adipogenesis. However, the relationship between the modulation effect of chenpi on gut microbiota and obesity prevention is still not clearly understood.

Methods and Results: The polymethoxyflavones enriched chenpi extract was prepared via the continuous phase transition extraction method. C57BL/6J mice were assigned to high-fat diet (HFD), HFD supplemented with 0.25% chenpi extract, HFD with 0.5% chenpi extract, and normal diet for 11 weeks. This study finds that chenpi extract could increase the production of fecal short chain fatty acids and reduce Proteobacteria prevalence and the ratio of Firmicutes to Bacteroidetes significantly and dose-dependently. At the genus level, chenpi extract could significantly promote beneficial bacteria, such as Akkermansia, Allobaculum, Lactobacillus and Bifidobacterium, and inhibit the growth of bile-metabolizing Acetatifactor and Bilophila.

Conclusion: The modulation effect of chenpi on gut microbiota was an important pathway for its anti-obesity mechanisms.

The above, proposed plan of research is approved and accepted.

DATE SIGNATURE OF DEPARTMENT HEAD OR MAJOR PROFESSOR - PRINT NAME