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Program



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- C279 I **823.21** Involvement of AMPK on the synergistic upregulation of phase II detoxifying enzyme activities by 1'-acetoxychavicol acetate and sodium butyrate. **K. Yaku, I. Matsui-Yuasa and A. Kojima-Yuasa.** Grad. Sch. of Human Life Sci., Osaka City Univ. and Wakayama Univ., Japan.
- C280 II **823.22** The increase in flow-mediated vasodilation induced by grape polyphenols is positively correlated with increased expression of inducible nitric oxide. **J. Barona, J. Lee, Y. Park and M.L. Fernandez.** Univ. of Connecticut and Univ. of Antioquia, Colombia.
- C281 I **823.23** The photoprotective effects of almond phytonutrients in a three-dimensional human skin tissue model. **J.A. Evans, J. Garlick, E.J. Johnson, X-D. Wang and C-Y.O. Chen.** USDA and Tufts Univ.
- C282 II **823.24** Tert-butyl-hydroquinone augments intracellular glutathione concentrations and induces antioxidant gene expression in organogenesis-stage rat conceptuses grown in whole embryo culture. **K.E. Sant, J.M. Hansen and C. Harris.** Univ. of Michigan and Emory Univ.
- C283 I **823.25** Functional cleavage of selenoprotein K is regulated by calpain/calpastatin system in Toll-like receptor activated macrophages. **Z. Huang, F.W. Hoffmann, A.S. Hashimoto and P.R. Hoffmann.** John A. Burns Sch. of Med., Univ. of Hawaii.
- C284 II **823.26** Anti-inflammatory effects of 4'-hydroxy nobletin, the major metabolite of nobletin. **X. Wu, S. Guo, G. Xu, J. Zheng and H. Xiao.** Univ. of Massachusetts Amherst and Ocean Univ. of China.
- C285 I **823.27** Effects of blueberry extract supplementation on antioxidant activity in chronically stressed rats. **B-H. Lee, M.Y. Kim, E.J. Kim, J-Y. Choi, M. Yu and C-K. Han.** Chung-Ang Univ., South Korea and Korea Food Res. Inst., Seongnam.
- C286 II **823.28** Effect of n-3 polyunsaturated fatty acids on peroxisome proliferator-activated receptor gamma expression in adults. **S. Rajaram, J. Sabaté and S. Mohan.** Loma Linda Univ. and Jerry L. Pettis VA Med. Ctr.
- C287 I **823.29** Hepatoprotective effects of *Rubus coreanus* Miquel concentrates on liver injuries induced by carbon tetrachloride in rats. **J-H. Chyun, H-J. Chae and J-E. Yim.** Inha Univ. and Changwon Natl. Univ., South Korea.
- C288 II **823.30** Diverse effects of a low dose supplement of lipidated curcumin in healthy middle aged people. **R.A. DiSilvestro, E. Joseph and J. Bomser.** The Ohio State Univ.
- C289 I **823.31** Anthocyanins-rich purple corn extract alleviated diabetes-associated inflammatory glomerulosclerosis and monocyte macrophage infiltration: role of interleukin-8. **M-K. Kang and Y-H. Kang.** Hallym Univ., South Korea.
- C290 II **823.32** Comparison of the effects of paired organic and conventional wines with different total polyphenol concentrations on plasma antioxidant status. **K. Ricklefs, K. Rasmussen and K.R. Martin.** Arizona State Univ.
- C291 I **823.33** Anti-inflammatory action of black garlic through downregulation of NF- κ B activation and MAP kinase phosphorylation. **H.L. Oh, M.J. Kim, B.R. You and M.R. Kim.** Chungnam Natl. Univ., South Korea.
- C292 II **823.34** Sorghum genotype decrease low-grade inflammation, oxidative stress and maintained intestinal morphology in rats fed with high-fat diet. **H.S.D. Martino, E.A. Moraes, D.I.G. Natal, V.A.V. Queiroz, R.E. Schaffert and S.M.R. Ribeiro.** Fed. Univ. of Vicosa and Embrapa Milho e Sorgo, Sete Lagoas, Brazil.
- C293 I **823.35** Anti-inflammatory action of *Liriope platyphylla* on LPS-stimulated RAW 264.7 macrophage. **N. Kim, M.J. Kim and M.R. Kim.** Chungnam Natl. Univ., South Korea.
- C294 II **823.36** Novel sorghum brans containing bioactive compounds alter the production of microbial secondary metabolites in response to a DSS-induced chronic inflammatory state. **L.E. Ritchie, R.J. Carroll, B. Weeks, L. Rooney and N.D. Turner.** Texas A&M Univ.
- C295 I **823.37** Broccoli seedlings prevent glucose-induced inflammation of peripheral blood mononuclear cells in humans. **K. Meijer, I. de Jong, M. Koehorst, M. Priebe, H. Roelofsen and R. Vonk.** Univ. Med. Ctr. Groningen, Netherlands.
- C296 II **823.38** Examining the anti-inflammatory properties of blueberry polyphenols using MC3T3-E1 cells. **M. Elam, J. Zhang, R. Feresin, S. Hooshmand and B.H. Arjmandi.** Florida State Univ., Cornell Univ. and San Diego State Univ. Sch. of Exer. and Nutr. Sci.
- C297 I **823.39** Suppressive effect of *Petasites japonicas* extract on TPA-induced ear edema in mouse model. **E.Y. Seo, H. Kim and M.R. Kim.** Chungnam Natl. Univ., South Korea.
- C298 II **823.40** Effects of quercetin and epigallocatechin gallate on the inflammatory response of stimulated human peripheral blood mononuclear cells. **J. Warren, K. Kennerly, D. Henson, D.C. Nieman and R.A. Shanely.** Appalachian State Univ., Boone and Kannapolis.
- C299 I **823.41** Usefulness of dietary flaxseed in abrogating lung damage associated with space exploration: antioxidant and anti-inflammatory effects of flaxseed in a murine model of repeated double-hit low-level radiation and hyperoxia exposure. **R.A. Pietrofesa, F. Dukes, S. Tyagi, E. Arguiri, C.C. Solomides and M. Christofidou-Solomidou.** Univ. of Pennsylvania and Jefferson Univ. Hosp.
- C300 II **823.42** Antioxidant activity of *Ribes diacanthum* Pall extracts in the northern region of Mongolia. **B. Birasuren and M.R. Kim.** Chungnam Natl. Univ., South Korea.
- C301 I **823.43** Impact of brewing conditions on the antioxidant capacity of green tea. **E. Sharpe and R. Bradley.** Clarkson Univ., NY and Bastyr Univ. Res. Inst., WA.
- C302 II **823.44** Lipid extracts from edible blue-green algae reduce the production of pro-inflammatory cytokines by inhibiting nuclear translocation of NF- κ B in RAW 264.7 macrophages. **C.S. Ku and J. Lee.** Univ. of Connecticut.

Sorghum genotype decrease low-grade inflammation, oxidative stress and maintained intestinal morphology in rats fed with high-fat diet. Hércia S. D. Martino¹; Érica A. Moraes¹; Dorina Isabel G. Natal¹; Valéria A. V. Queiroz²; Robert E. Schaffert²; Sônia M. R. Ribeiro¹; ¹Universidade Federal de Viçosa, Departamento de Nutrição e Saúde. ² Embrapa Milho e Sorgo, Núcleo de recursos Genético e Genótipos.

Obesity has been linked to the low-grade pro-inflammatory state and to the oxidative stress. The dietary addition of whole grains could prevent obesity and co-morbidities. The aim of this study was to evaluate the effect of different sorghum genotype, heat-treated flours in high-fat diets on the lipid profile, blood glucose, oxidative stress, inflammation and intestinal morphology in male adult Wistar rats. The animals were fed AIN-93M diet, high-fat diet control (DHC) and high-fat diet supplemented with sorghum BRS 305 (DHS 305), BRS 309 (DHS 309) and BRS 310 (DHS 310). The food consumption of the AIN-93M group was higher than the DHC, DHS 305 and DHS 310 groups ($p < 0.05$). The energy consumption, final weight, body weight gain, epididymal fat, and food efficiency ratio were similar ($p > 0.05$) between the experimental groups, as well as the concentrations of glucose, fructosamine, total cholesterol and HDL cholesterol, triglycerides, liver enzymes and superoxide dismutase. The DHS 310 group showed lower levels of malondialdehyde and TNF- α ($p < 0.05$). The intestinal villi height of the DHC, DHS 305, DHS 309 and DHS 310 groups did not differ ($p \geq 0.05$). We conclude that the BRS 310 genotype was more efficient to decrease low-grade inflammation and oxidative stress and maintained intestinal morphology. Research Support: FAPEMIG and CNPq/Brazil.