

Food & Function

rsc.li/food-function

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 2042-650X CODEN FFOUAI 15(12) 6203-6770 (2024)



Cover
See Muwen Lu *et al.*,
pp. 6217–6231.

Image reproduced by
permission of Muwen Lu
from *Food Funct.*,
2024, **15**, 6217.



Inside cover
See Ilce Gabriela Medina-
Meza, Carlo Barnaba *et al.*,
pp. 6324–6334.

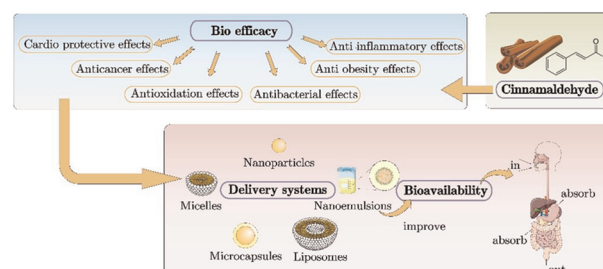
Image reproduced by
permission of Ilce Gabriela
Medina-Meza and
Carlo Barnaba from
Food Funct., 2024, **15**, 6324.

REVIEWS

6217

Biological fate, functional properties, and design strategies for oral delivery systems for cinnamaldehyde

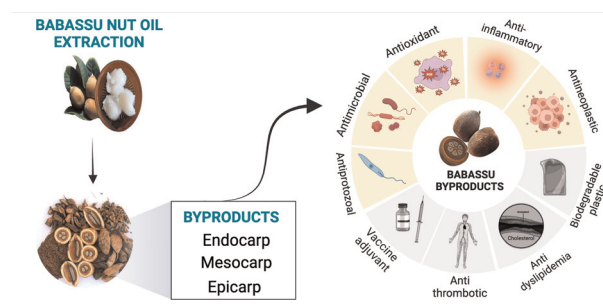
Xiaolan Weng, Chi-Tang Ho and Muwen Lu*



6232

Bioactive compounds and benefits of by-products of Amazon babassu oil production: potential for dietary supplement, biomedical and food applications

Rayssa Cruz Lima, Anna Paula Azevedo de Carvalho,*
Antonio Eugenio Castro Cardoso de Almeida and
Carlos Adam Conte-Junior



Advance your career in science

with professional recognition that showcases
your **experience, expertise and dedication**

Stand out from the crowd

Prove your commitment
to attaining excellence in
your field

Gain the recognition you deserve

Achieve a professional
qualification that inspires
confidence and trust

Unlock your career potential

Apply for our professional
registers (RSci, RSciTech)
or chartered status
(CChem, CSci, CEnv)

Apply now

rsc.li/professional-development

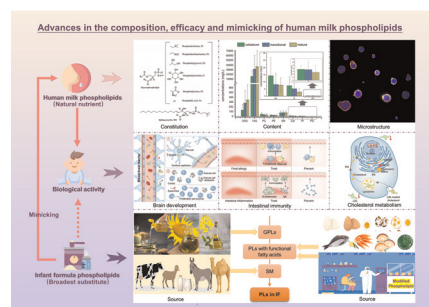


REVIEWS

6254

Advances in the composition, efficacy, and mimicking of human milk phospholipids

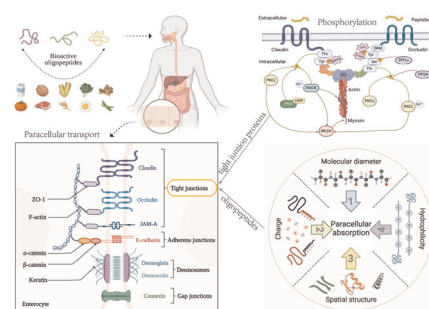
Yuru Wang, Qian Liu, Yan Liu, Weicang Qiao, Junying Zhao, Huiru Cao, Yan Liu and Lijun Chen*



6274

Intestinal absorption of bioactive oligopeptides: paracellular transport and tight junction modulation

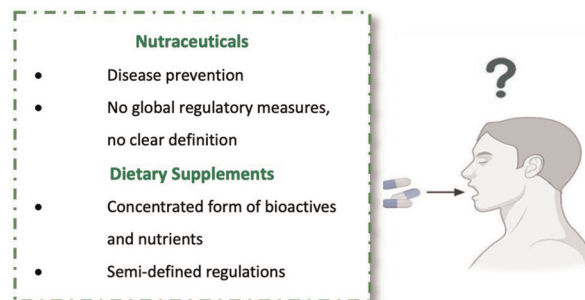
Zhipeng Yu, Di Liu, Chunjian Wu and Wenzhu Zhao*



6289

Nutraceuticals and dietary supplements: balancing out the pros and cons

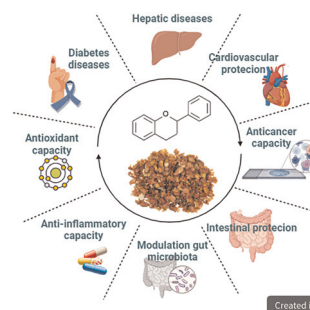
Filipa A. Fernandes, Márcio Carocho,* Miguel A. Prieto, Lillian Barros, Isabel C. F. R. Ferreira and Sandrina A. Heleno



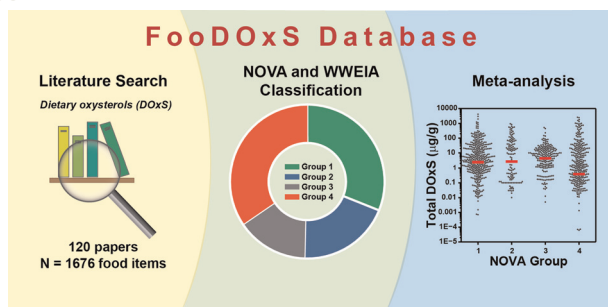
6304

Bioactive compounds of peanut skin in prevention and adjunctive treatment of chronic non-communicable diseases

Karina Cordeiro-Massironi, Rosana Aparecida Manólio Soares Freitas, Isabelle Christine Vieira da Silva Martins, Adriano Costa de Camargo* and Elizabeth Aparecida Ferraz da Silva Torres*



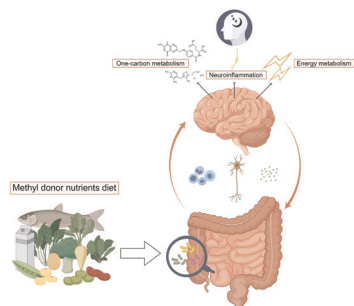
6324



FoodOxS: a database of oxidized sterols content in foods

Ilce Gabriela Medina-Meza,* Yashasvi Vaidya and Carlo Barnaba*

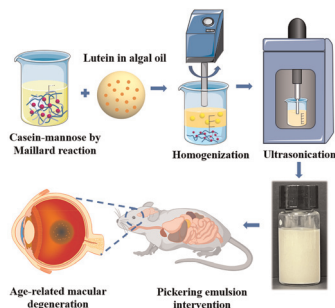
6335



Association of methyl donor nutrients dietary intake and sleep disorders in the elderly revealed by the intestinal microbiome

Qianqian Chen, Rui Fan, Lixia Song, Shuyue Wang, Mei You, Meng Cai, Yuxiao Wu, Yong Li and Meihong Xu*

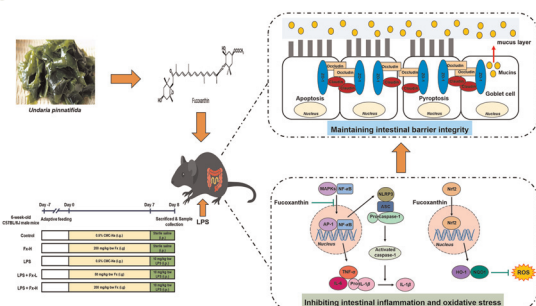
6347



Protection effect of lutein-loaded Pickering emulsion prepared via ultrasound-assisted Maillard reaction conjugates on dry age-related macular degeneration

Kangjing Liu, Yu Li, Xu Zhong, Yitong Hou, Siyuan Fei, Entao Chen and Mingqian Tan*

6359



Fucoxanthin alleviates lipopolysaccharide-induced intestinal barrier injury in mice

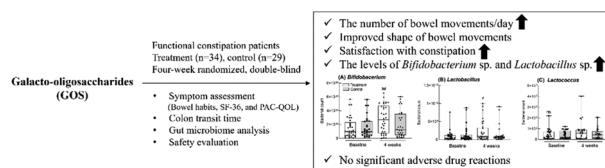
Lei Du, Chen Chen, Yu-Hong Yang, Yan Zheng, Hui Li, Zi-Jian Wu, Hao Wu, Kazuo Miyashita and Guo-Hai Su*



6374

Efficacy and safety of galacto-oligosaccharide in the treatment of functional constipation: randomized clinical trial

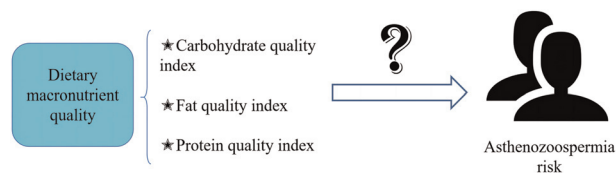
Jae-Hwan Lee, Geun-Bae Kim, Kisoo Han, Eun-Jin Jung, Hyung Joo Suh and Kyungae Jo*



6383

Associations between dietary macronutrient quality and asthenozoospermia risk: a hospital-based case-control study

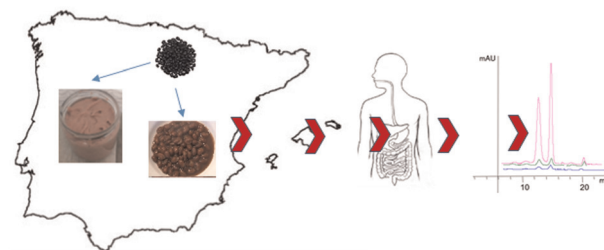
Xiao-Ying Li, Yi-Xiao Zhang, Xiao-Bin Wang, Yu-Xin Nan, Dong-Dong Wang, Ming-Hun Sun, Hong-Yu Chen, Ren-Hao Guo, Xu Leng, Qiang Du, Bo-Chen Pan,* Qi-Jun Wu* and Yu-Hong Zhao*



6395

Black bean (*Phaseolus vulgaris* L. cv. "Tolosa") polyphenolic composition through cooking and *in vitro* digestion

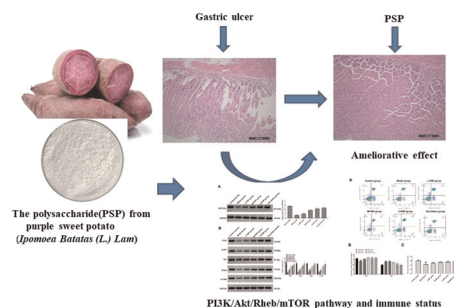
Marianela Desireé Rodríguez, María Luisa Ruiz del Castillo, Gracia Patricia Blanch* and Sonia de Pascual-Teresa*



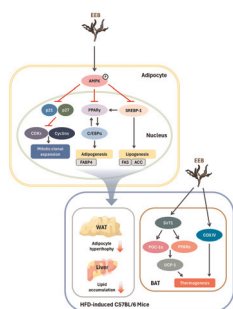
6408

Gastroprotective effects of polysaccharides from purple sweet potato (*Ipomoea batatas* (L.) Lam) on an ethanol-induced gastric ulcer *via* regulating immunity and activating the PI3K/Akt/Rheb/mTOR pathway

Huiqing Sun, Yinyin Feng, Junhan Zhang, Rui Zhang, Fang Ning, Ziyi She, Liyuan Yun and Meng Meng*



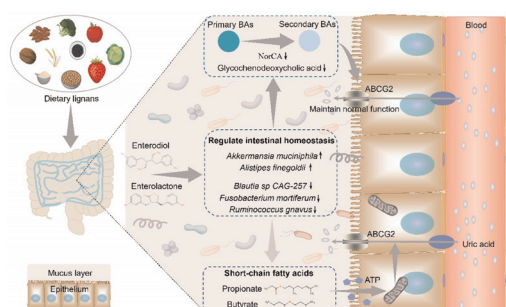
6424



Anti-obesity effects of a standardized ethanol extract of *Eisenia bicyclis* by regulating the AMPK signaling pathway in 3T3-L1 cells and HFD-induced mice

Young-Seo Yoon, Kyung-Sook Chung, Su-Yeon Lee, So-Won Heo, Ye-Rin Kim, Jong Kil Lee, Hyunjae Kim, Soyeon Park, Yu-Kyong Shin and Kyung-Tae Lee*

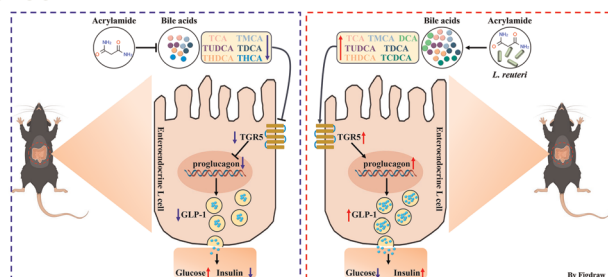
6438



Gut microbiota–bile acid axis mediated the beneficial associations between dietary lignans and hyperuricemia: a prospective study

Lai-Bao Zhuo, Yingdi Yang, Congmei Xiao, Fanqin Li, Lishan Lin, Yue Xi, Yuanqing Fu, Ju-Sheng Zheng* and Yu-ming Chen*

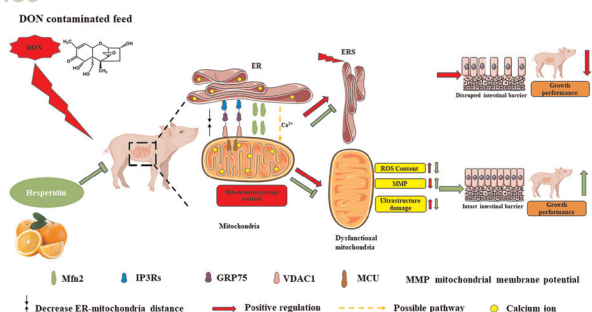
6450



Lactobacillus reuteri JCM 1112 ameliorates chronic acrylamide-induced glucose metabolism disorder via the bile acid–TGR5–GLP-1 axis and modulates intestinal oxidative stress in mice

Zonghao Yue, Feiyue Zhao, Yuqi Guo, Yidan Zhang, Yanjuan Chen, Le He and Lili Li*

6459



Effects of hesperidin on mitochondrial function, mitochondria-associated endoplasmic reticulum membranes and IP3R–MCU calcium axis in the intestine of piglets exposed to deoxynivalenol

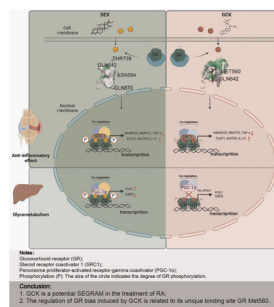
Xin Li, Qian Lin, Feiyang Gou, Jiang Zhu, Minjie Yu, Qihua Hong and Caihong Hu*



6475

Ginsenoside compound K plays an anti-inflammatory effect without inducing glucose metabolism disorder in adjuvant-induced arthritis rats

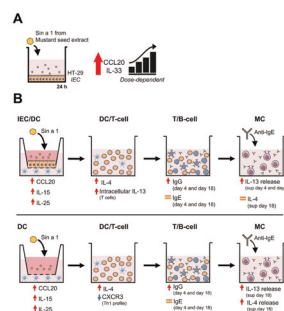
Lijuan Mao, Lili Liu, Jun Li, Xingyue Yang, Xiujin Xu, Mengxue Liu, Yanqiu Zhang, Wei Wei* and Jingyu Chen*



6488

Mustard seed major allergen Sin a1 activates intestinal epithelial cells and also dendritic cells that drive type 2 immune responses

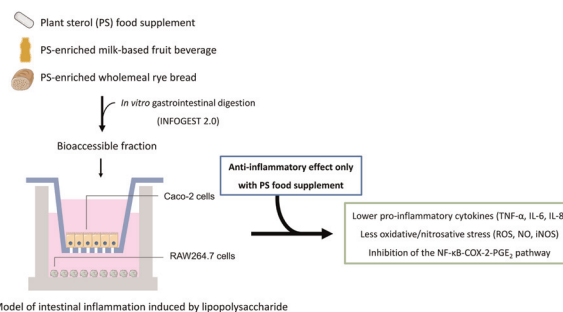
Cristina Bueno-Díaz,* Marit Zuurveld, Verónica Ayeche-Muruzabal, Sandra G. P. J. Korsten, Laura Martín-Pedraza, Jorge Parrón-Ballesteros, Frank Redegeld, Johan Garssen, Mayte Villalba and Linette E. M. Willemsen*



6502

Anti-inflammatory activity of plant sterols in a co-culture model of intestinal inflammation: focus on food-matrix effect

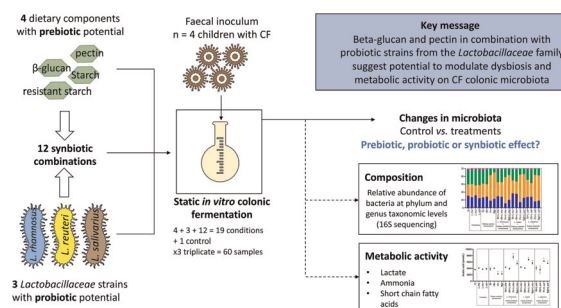
Nerea Faubel, Mussa Makran, Reyes Barberá, Guadalupe Garcia-Llatas,* Ilenia Concetta Giardina, Luisa Tesoriere, Alessandro Attanzio* and Antonio Cilla



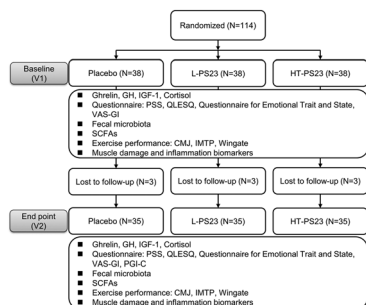
6512

In vitro screening of the impact of dietary prebiotic components, probiotic strains, and their symbiotic combinations on colonic microbiota in children with cystic fibrosis

Jazmín Viteri-Echeverría, Ana Andrés, Joaquim Calvo-Lerma, Ana Heredia, Jorge García-Hernández and Andrea Asensio-Grau*



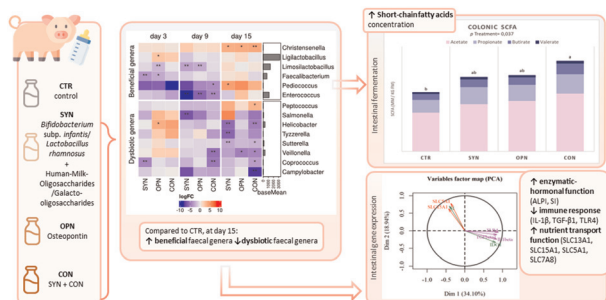
6523



Lactacisbacillus paracasei PS23 increases ghrelin levels and modulates microbiota composition: a post-hoc analysis of a randomized controlled study

Shu-I. Wu,* Mon-Chien Lee, Wan-Lin Chen and Chi-Chang Huang

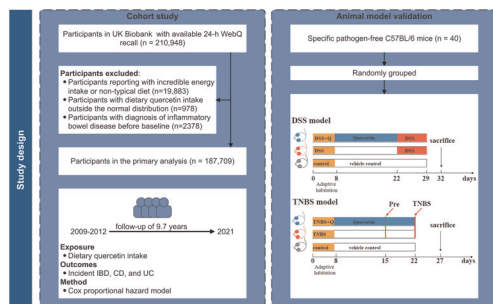
6536



Supplementing infant milk formula with a multi-strain synbiotic and osteopontin enhances colonic microbial colonization and modifies jejunal gene expression in lactating piglets

Laia Ferreres-Serafini, Susana M^a Martín-Orúe,* Meritxell Sadurní, Jesús Jiménez, José Antonio Moreno-Muñoz and Lorena Castillejos

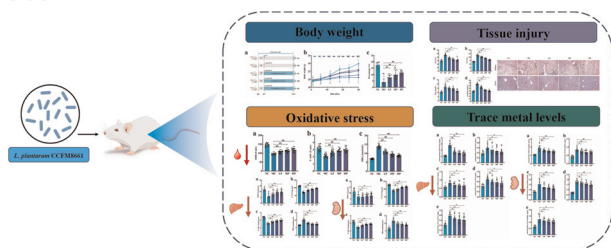
6553



Dietary quercetin intake is associated with lower ulcerative colitis risk but not Crohn's disease in a prospective cohort study and *in vivo* experiments

Shi-Yuan Lu,* Lintao Dan, Sishen Sun, Tian Fu and Jie Chen*

6565



Protective effect of *Lactiplantibacillus plantarum* CCFM8661 against heavy metal mixture-induced liver and kidney injury in mice

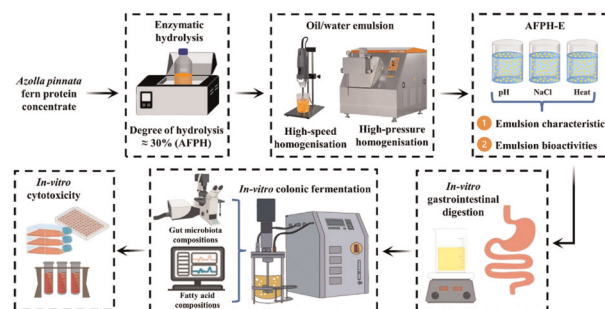
Weiwei Ma, Xinyue Lin, Yiyang Zhao, Ziwei Zhang and Lili Huang*



6578

Performance of *Azolla pinnata* fern protein hydrolysates as an emulsifier and nutraceutical ingredient in an O/W emulsion system and their effect on human gut microbiota and mammalian cells

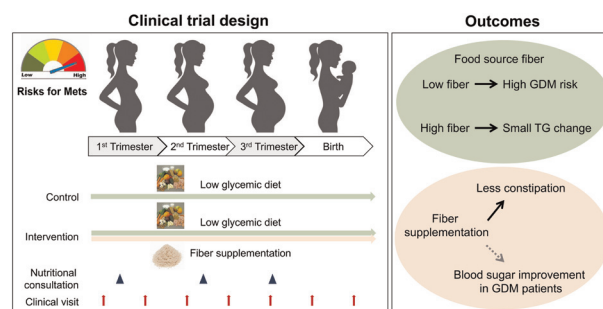
Mohammed S. Qoms, Brisha Arulrajah, Wan Zunairah Wan Ibadullah, Nurul Shazini Ramli, De-Ming Chau, Shahrul Razid Sarbini and Nazamid Saari*



6597

Effects of dietary fiber on maternal health in pregnant women with metabolic syndrome risk: a randomized controlled trial

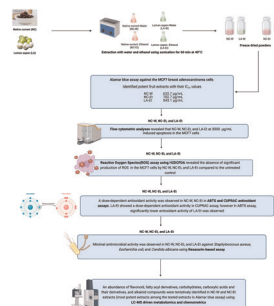
Hong Shen, Dan Chen, Shuying Wang, Yan Jin and Weiwei Cheng*



6610

Exploring the broad-spectrum pharmacological activity of two less studied Australian native fruits: chemical characterisation using LCMS-driven metabolomics

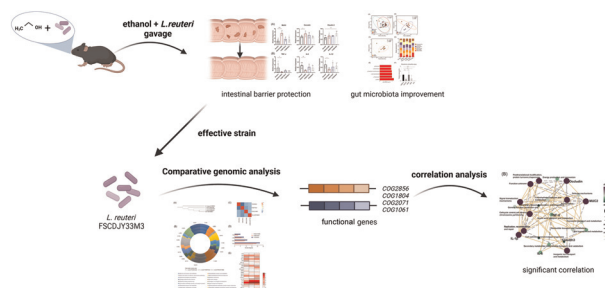
Dissanayake Mudiyansele Indeewarie Hemamali Dissanayake, Muhammad A. Alsherbiny,* Colin Stack, Dennis Chang, Chun Guang Li, Kirandeep Kaur and Deep Jyoti Bhuyan*



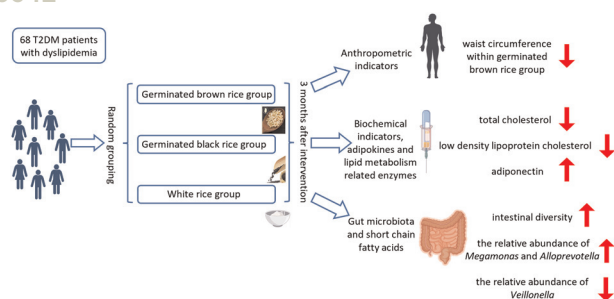
6629

Analysis of the key genes of *Lactobacillus reuteri* strains involved in the protection against alcohol-induced intestinal barrier damage

Jiayi Zhang, Chengcheng Zhang, Leilei Yu, Fengwei Tian, Wei Chen and Qixiao Zhai*



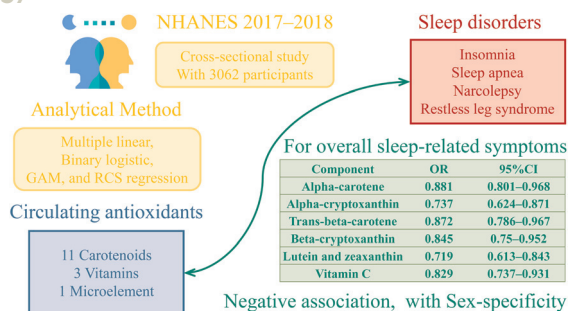
6642



Effects of germinated brown rice and germinated black rice on people with type 2 diabetes mellitus combined with dyslipidaemia

Fengyi Zhao, Chuanying Ren, Lihua Li, Chao Huang, Qing Zhao, Yulian Zhong, Qiaosheng Hu, Wang Liao, Hui Xia, Ligang Yang, Shaokang Wang* and Guiju Sun

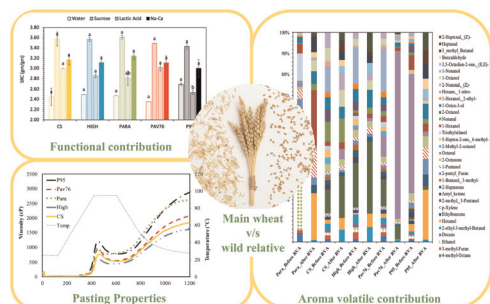
6657



Association between circulating antioxidants and sleep disorders: comprehensive results from NHANES 2017–2018

Liwei Tang, Min Liu, Jingjing Mu and Jing Tian*

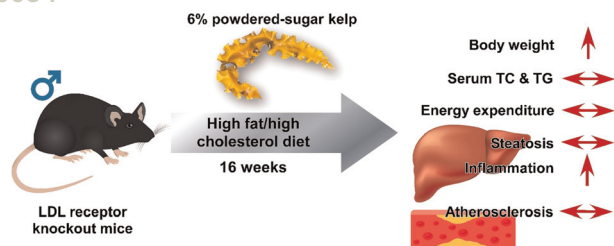
6673



Headspace volatiles profiles of different spring varieties and a wild relative of wheat flour

Deepa Agarwal,* William MacNaughtan, Chujiao Liu, Julie King and Tim J. Foster

6684



Dietary sugar kelp (*Saccharina latissima*) consumption did not attenuate atherosclerosis in low-density lipoprotein receptor knockout mice

Hyungryun Jang, Hayoung Woo, Olivia Corvino, Hyunju Kang, Mi-Bo Kim, Ji-Young Lee and Young-Ki Park*

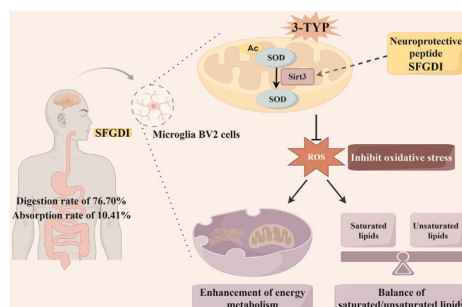


PAPERS

6692

The neuroprotective effects of SFGDI on sirtuin 3-related oxidative stress by regulating the Sirt3/SOD/ROS pathway and energy metabolism in BV2 cells

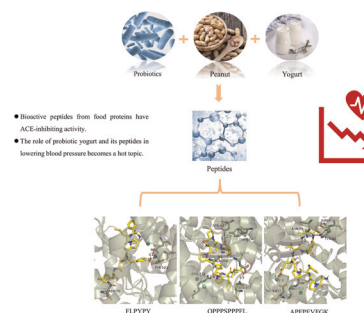
Zhiqiang Lu, Siqi Shen and Songyi Lin*



6705

Peptidomics-based study of antihypertensive activity: discovery of novel ACE inhibiting peptides from peanut yogurt

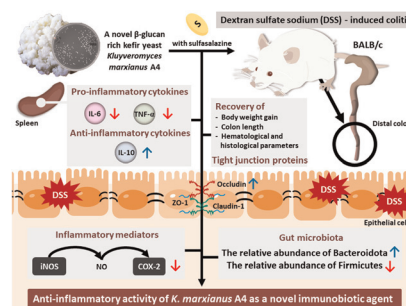
Baiyan Chen, Xiaoying Wang, Jiuyan Zhang and Li Wang*



6717

A comparative evaluation of the kefir yeast *Kluyveromyces marxianus* A4 and sulfasalazine in ulcerative colitis: anti-inflammatory impact and gut microbiota modulation

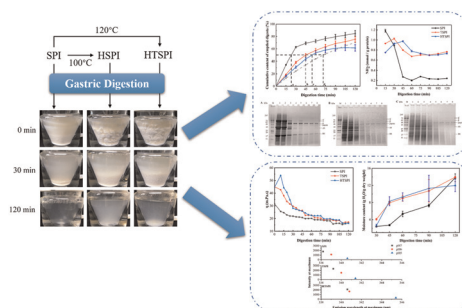
Hye-Young Youn, Hyeon-Jin Kim, Hyunsook Kim and Kun-Ho Seo*



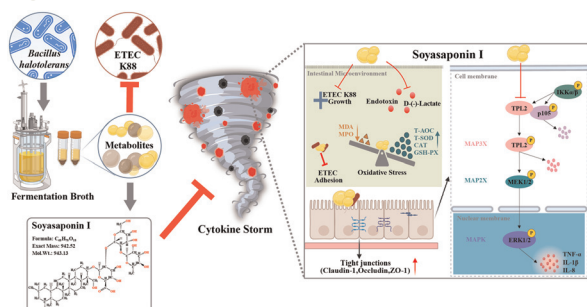
6731

Aggregation structure induced by heat treatments mediated the gastric digestion behavior of soybean protein

Shanyueru Yan, Kaiyun Wu, Chuanwu Han, Jian Guo,* Jinmei Wang and Xiaoquan Yang



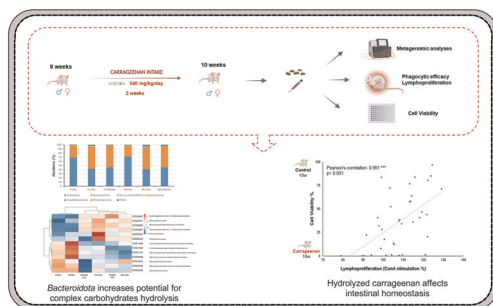
6743



***Bacillus halotolerans* attenuates inflammation induced by enterotoxigenic *Escherichia coli* infection *in vivo* and *in vitro* based on its metabolite soyasaponin I regulating the p105-Tpl2-ERK pathway**

Minghan Li, Dongyu Zhao, Jinxin Meng, Tianxu Pan, Junyi Li, Jialin Guo, Haibin Huang, Nan Wang, Di Zhang, Chunfeng Wang* and Guilian Yang*

6759



Influence of consumption of the food additive carrageenan on the gut microbiota and the intestinal homeostasis of mice

Alicia Bellanco, Judith Félix, Estefanía Díaz Del Cerro, M. Carmen Martínez Cuesta, Mónica De la Fuente and Teresa Requena*

