

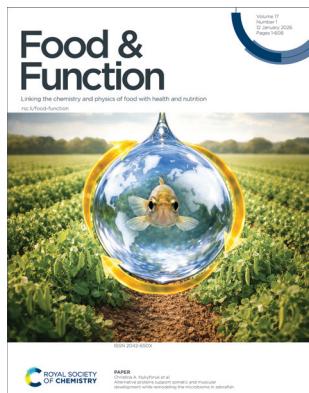
Food & Function

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 17(1) 1–608 (2026)



Cover

See Christina A. Nykyforuk et al., pp. 106–119.

Image reproduced by permission of Keith Tierney from *Food Funct.*, 2026, **17**, 106.

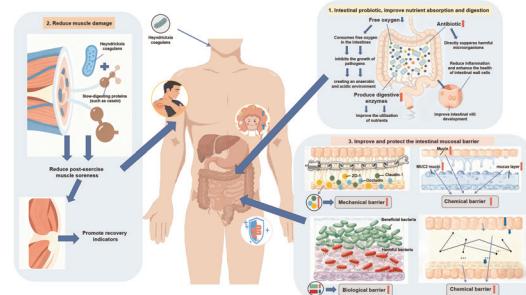
Image partly generated with AI.

REVIEWS

15

Heyndrickxia coagulans as a next-generation probiotic: current evidence and future perspectives

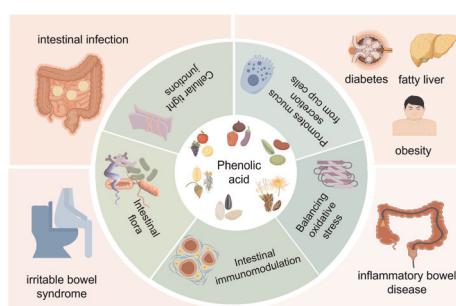
Sihan Ke, Zixia Chen, Yutong Qi, Jiantang Zhang, Qizhu Chen, Jun Chen and Huaben Bo*



41

The effects of phenolic acid supplementation on intestinal barrier function: a review

Li Xia, Xiulian Lin, Yuanjiao Zhou, Yamei Li, Yingyan Liao, Yan Lin, Limei Lin,* Ping Wu* and Jingchen Xie*



EES Batteries

**Exceptional research on
batteries and energy storage**

Part of the EES family

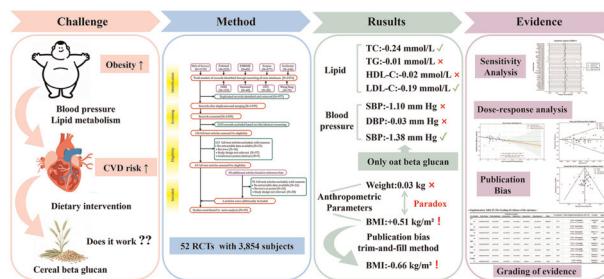
**Join
in** | Publish with us
rsc.li/EESBatteries

REVIEWS

70

Cereal beta-glucan and cardiovascular disease risk reduction in overweight and obese populations: a systematic review and meta-analysis of lipid, blood pressure, and anthropometric parameters

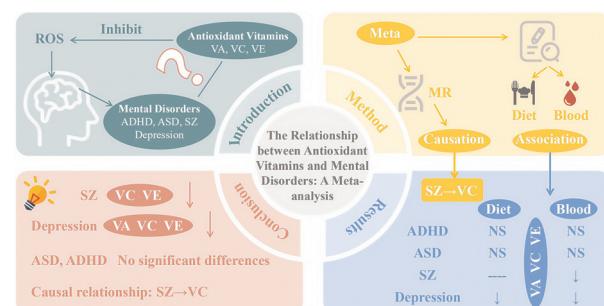
Ruihao Zheng, Hui Zhang, Hongying Hua, Yan Zhang, Chengming Jin, Yijun Zhou, Xiaowei Shi and Ling Zhu*



89

The relationship between antioxidant vitamins and mental disorders: a meta-analysis

Hua Pan, Wenhui Xu, Motong Liu, Yan Han, Shiqing Jia, Haitao Yu* and Lin Xie*

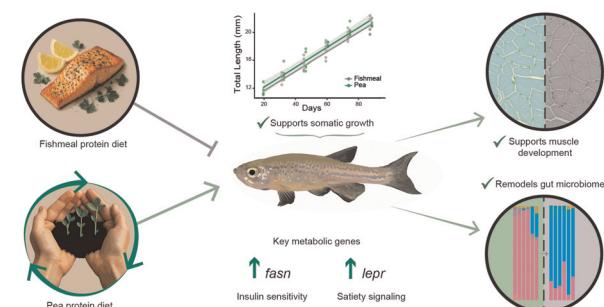


PAPERS

106

Alternative proteins support somatic and muscular development while remodeling the microbiome in zebrafish

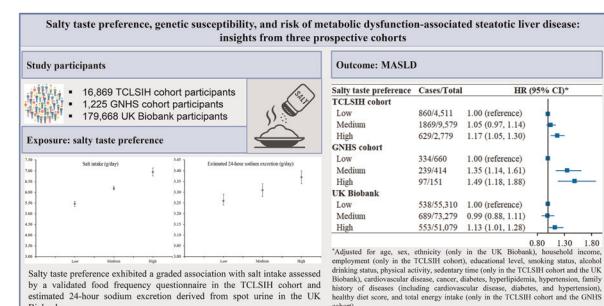
Christina A. Nykyforuk,* Laurel A. Ford, Emilie C. Torwalt, Morgan V. Steffler, Anwyn F. Neraasen, Joshua C. Lind, Connor B. Stewart, Aaron Boyd, Arash Shahriari, David C. Madsen and Keith B. Tierney



120

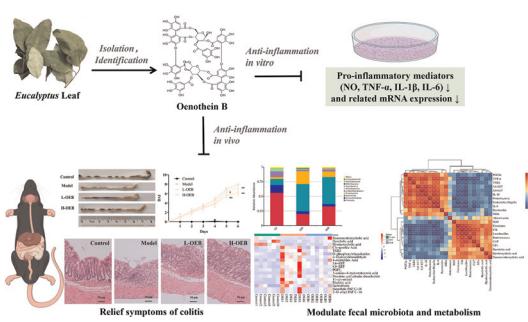
Salty taste preference, genetic susceptibility, and risk of metabolic dysfunction-associated steatotic liver disease: insights from three prospective cohorts

Shunming Zhang, Yan Yan, Yeqing Gu, Hongmei Wu, Qing Zhang, Li Liu, Yan Borné, Lu Qi,* Tao Huang,* Yu-Ming Chen,* Kajjun Niu,* Le Ma* and the China Cohort Consortium



PAPERS

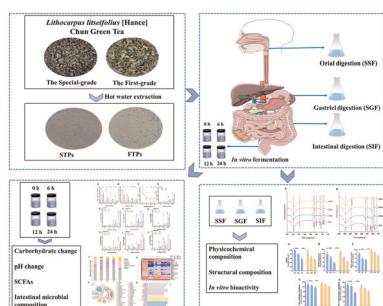
133



***In vitro* and *in vivo* anti-inflammatory activity of oenothein B from *Eucalyptus* leaves and its amelioration mechanism on colitis in mice by regulating fecal microbiota and metabolism**

Wei Li, Xiaoying Zhang, Lu Xu, Yunjiao Chen, Yong Cao* and Ziyin Li*

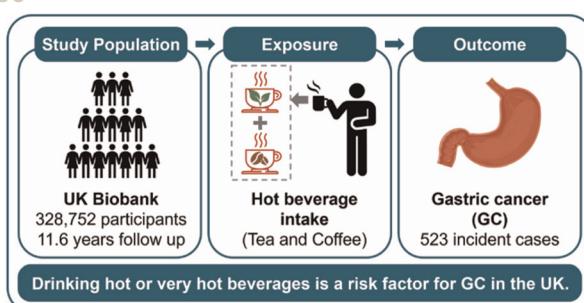
150



***In vitro* simulated digestion and fermentation of *Lithocarpus litseifolius* [Hance] Chun green tea polysaccharides and their modulation of the gut microbiota**

Qingying Luo,* Xuewei Liao, Lijia Zhang, Zhengfeng Fang, Hong Chen, Bin Hu, Yuntao Liu and Zhen Zeng*

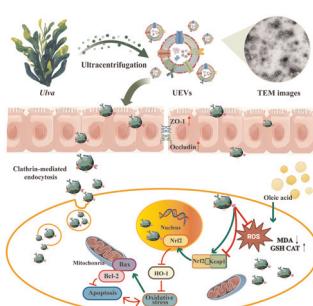
166



Association between hot beverage intake and gastric cancer risk: a prospective cohort study from the UK Biobank

Fengyi Huang, Xite Zheng, Yanling Qi, Xiaorui Zhang, Changwei Li,* Deqiang Zheng* and Fen Liu*

176



***Ulva lactuca* extracellular vesicles protect against high-fat diet-induced intestinal damage via Nrf2/Keap1/HO-1 activation**

Jiaxuan Li, Yu Li, Xunyu Song, Yuxiao Wang,* Yinxu Zhang, Xinghua Gao,* Mingqian Tan and Wentao Su*

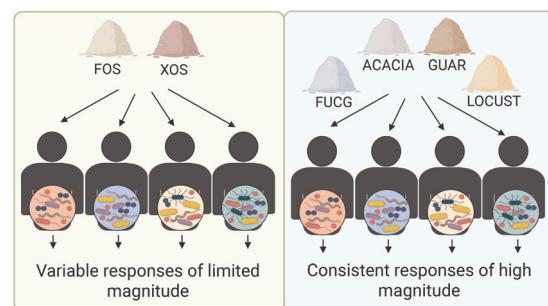


PAPERS

190

New high-specificity fibers with strong and consistent responses across individuals

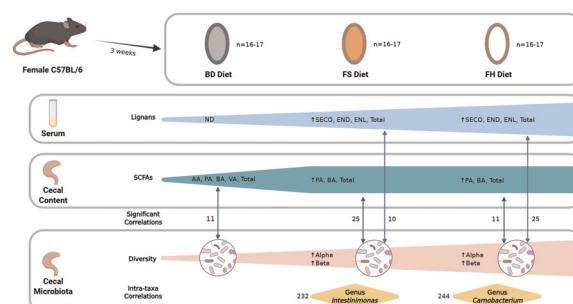
Mirian Aparecida de Campos Costa, Xinruo Zhao, Dirce Komura, Elaine Rosechrer Carbonero, Grethel Teresa Choque-Delgado, Yunus E. Tunçil, Thales Cipriani, Yony Román-Ochoa, Bruce R. Hamaker and Thaisa M. Cantu-Jungles*



204

Altered mouse cecal microbiome-serum enterolignans relationships in response to dietary lignans ingested through whole flaxseed or flaxseed hull

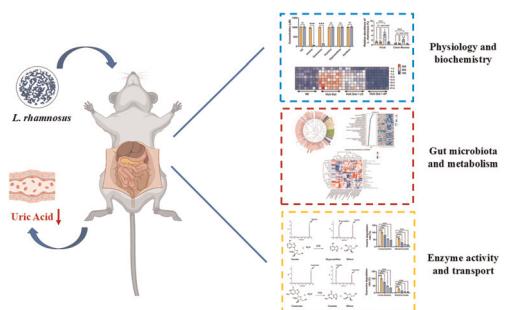
Michelle Ku, Amel Taibi, Diana Wu, Yue-Tong Chen, Lorena Lopez-Dominguez, Yahan Yang, Siying Chen, Fred Liang, Ronghua Liu, Rong Tsao, Krista A. Power, Lilian U. Thompson* and Elena M. Comelli*



216

***Lacticaseibacillus rhamnosus* alleviates hyperuricemia by restricting intestinal nucleoside absorption**

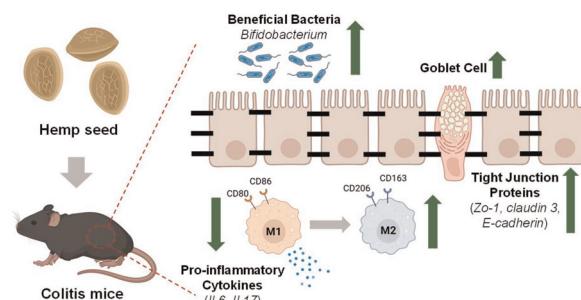
Pin Chen, Huan Cheng, Shiguo Chen, Xingqian Ye and Jianle Chen*



231

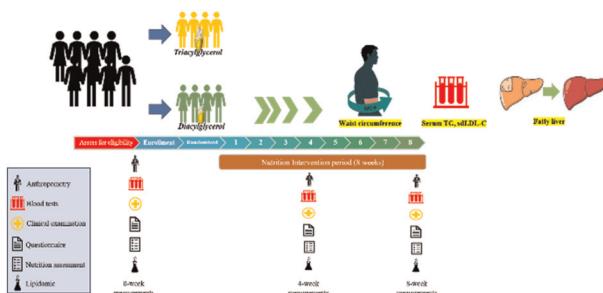
Hemp seed mitigates colonic inflammation through macrophage polarization and microbiota-barrier axis restoration

Jieun Woo, Dekun Cheng, Erica A. Long, Kristin L. Whitney, Guangyi Shen, Lavanya Reddivari, Qing Jiang, Senay Simsek, Tingting Ju and Weicang Wang*



PAPERS

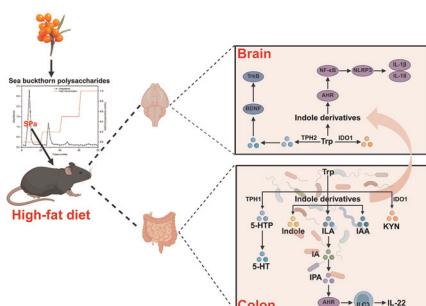
243



Clinical and lipid metabolic responses to diacylglycerol oil administration in Chinese adults with overweight/obesity or central obesity: a randomized, double-blind, placebo-controlled trial

Liyuan Qin, Wei Zhao, Zhuohua Lin, Xin Bao, Rong Li, Qiyue Hao, Zhe Yi, Qun Shen, Hua Jiang, Yumei Zhang* and Yong Xue*

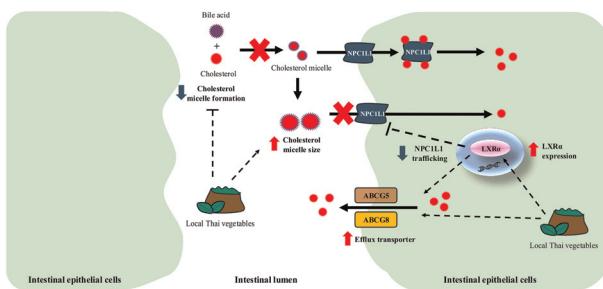
259



The main component of polysaccharides from *Hippophae rhamnoides* L. improves HFD-induced neuronal damage by regulating tryptophan synthesis and metabolism

Jing Peng, Lili Chang, Mingyou Yuan, Chendi Wang, Zishuo Zhao, Huizhen Yan, Xiangyu Han, Xuyang Qin, Meng Zhang, Xiulian Li and Ying Lan*

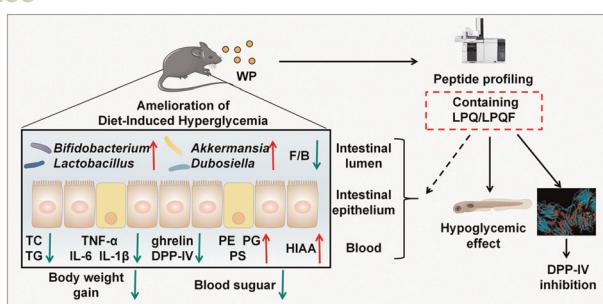
274



Potential lipid-lowering effects of Northern Thai vegetable extracts on the inhibition of cholesterol absorption: emerging *in vitro* and *in vivo* models

Worarat Rojanaverawong, Pannita Holasut, Jakkapong Inchai, Kornwalai Tunkaew, Thanthakan Saithong, Matina Chaiwarut, Sirinya Taya, Rawiwan Wongpoomchai, Supakit Chaipoot and Chutima S. Vaddhanaphuti*

288



Amelioration of diet-induced hyperglycemia by wheat peptides in a multi-target manner: integrated modulation of inflammation, lipid metabolism, gut microbiota, and DPP-IV inhibition

Fei Shen, Qian Deng, Yishan Song, Guanghua He, Xiaojun Chu, Minjie Zhao, Juan Du, Fengqin Feng, Xi Zhang* and Hao Zhong*

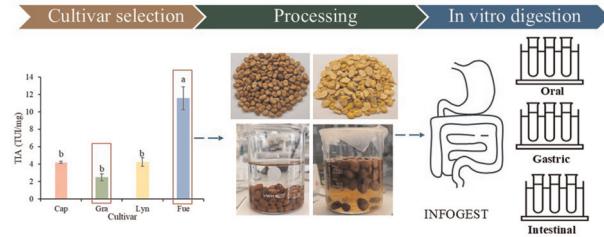


PAPERS

304

Effects of dehulling and boiling on protein digestibility in faba beans with high and low trypsin inhibitor activity

Tianzhen Xiao, Patrícia Duque-Estrada, Mads Emil Larsen, Iben Lykke Petersen, Poul Erik Jensen, Lotte Bach Larsen and Nina Aagaard Poulsen*

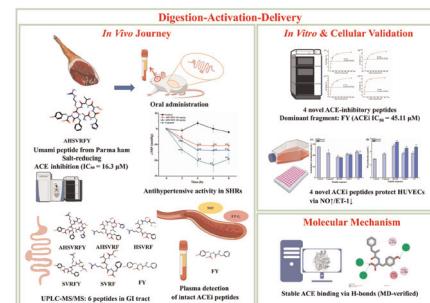


- Processing affected TIA and IVPD differently in two faba bean cultivars.
- Dehulling improved the IVPD of faba beans.

315

An *in vivo* study of the antihypertensive effects of the umami peptide AHSVRFY from Parma ham and its intestinal digestion

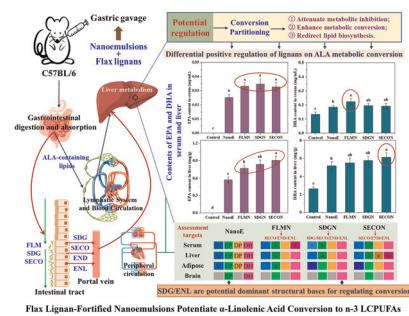
Qian Ding, Tianyu Wang, Kuo Dang, Yanli Wang, Daodong Pan, Qiang Xia, Xinchang Gao* and Yali Dang*



329

Flax lignan-fortified nanoemulsions potentiate the conversion of α -linolenic acid to n-3 LCPUFAs: cumulative metabolic patterns in non-fasting mice

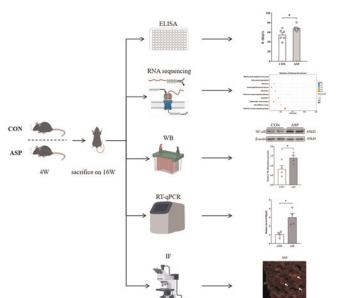
Lei Wang, Xiao Yu,* Chen Cheng, Jiqu Xu, Xia Xiang, Li Chen, Xiaoqiao Tang and Qianchun Deng*



348

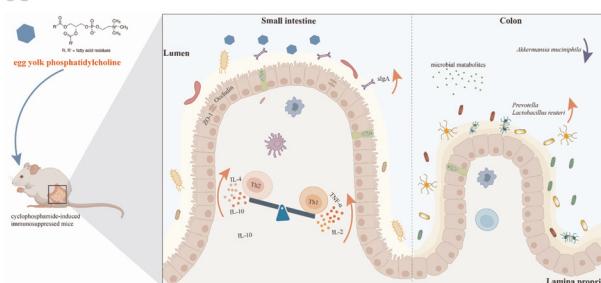
Transcriptomic evidence of hypothalamic neuroinflammation in mice due to aspartame exposure through the TLR4/NF- κ B/NLRP3 pathway

Wenyu Yang, Tong Tong, Qiqi Li, Wenhui Ye and Wei Wei*



PAPERS

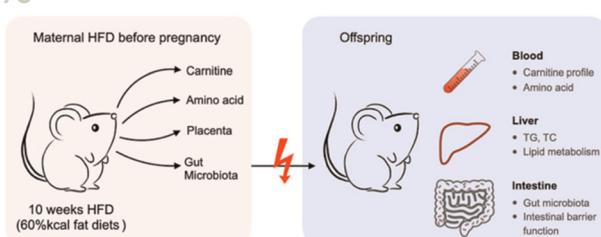
363



Microbiomics and metabolomics insights into the mechanism of egg yolk phosphatidylcholine enhancing intestinal immunity

Yunpeng Wen, Shuping Chen, Teng Wei, Na Wu, Yao Yao, Lilan Xu, Jihua Mao, Yan Zhao* and Yonggang Tu*

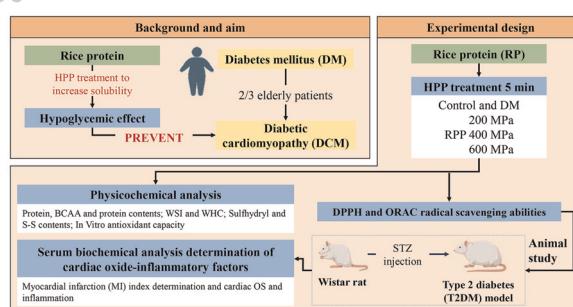
378



Maternal high-fat diet before pregnancy triggered off abnormal carnitine mapping and gut microbiota development in offspring

Chen Zhang, Shiqi Sun, Yufei Song, Xinyi Pan, Liyun Shi and Cuiyuan Jin*

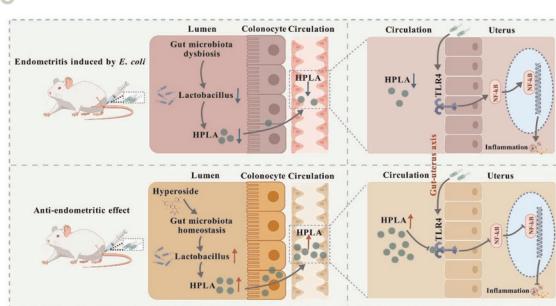
390



Ameliorative potential of rice protein hydrolysates prepared through high-pressure processing against diabetic cardiomyopathy

Yu-Tsung Cheng, Ping-Hsiu Huang, Yung-Jia Chan, Wen-Chien Lu and Po-Hsien Li*

408



Hyperoside, a dietary flavonoid, protects against endometriosis via gut microbiota-dependent production of hydroxyphenyllactic acid and the gut–uterus axis

Jing Yang, Jing Yu, Yajing Chen, Anqi Xu, Chunli Yang, Jincun Li, Fengkun Wu, Xiaobing Li, Junlong Bi,* Bin Xiang* and Kangfeng Jiang*

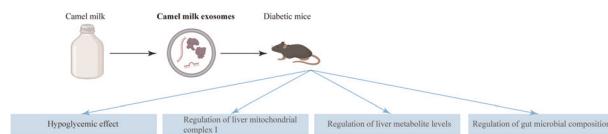


PAPERS

426

Camel milk exosomes alleviate hyperglycemia by regulating the hepatic mitochondrial complex I activity, hepatic metabolome, and gut microbiota in high-fat diet (HFD) and streptozotocin (STZ)-induced diabetic mice

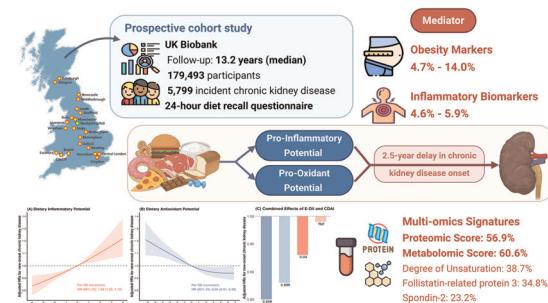
Bin Yang, Ling Liu, Jingjing Wang, Shifeng Du, Hao Liang and Demtu Er*^{*}



449

Pro-inflammatory and pro-oxidant diets and CKD risk across cardiovascular–kidney–metabolic syndrome stages: a multi-omics mediation analysis

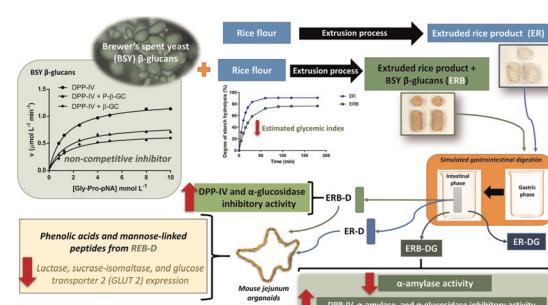
Yiwei Zhang, Yu Huang, Xiaoqin Gan, Sisi Yang, Yanjun Zhang, Yiting Wu, Ziliang Ye, Xianglian Cai, Dan Chen, Xiaolong Liang, Xianhui Qin* and Yuanyuan Zhang*



461

Hypoglycemic effects under *in vitro* digestion of brewer's spent yeast β -glucan concentrate added to a rice extrudate

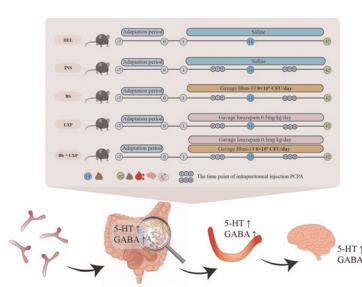
Marilin E. Aquino, Olga Martínez-Augustin, Fermín Sánchez de Medina, Franco Van de Velde, Silvina R. Drago* and Raúl E. Cian



475

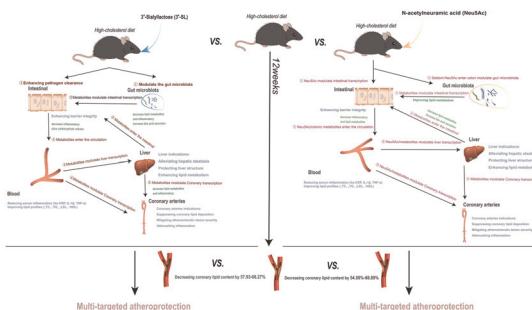
***Bifidobacterium animalis* subsp. *lactis* Bbm-19 ameliorates insomnia by remodeling the gut microbiota and restoring γ -aminobutyric acid and serotonin signaling**

Qiong Wu, Guangqi Gao, Lai-Yu Kwok, Jiaqi Qiao, Ziqing Wei, Qiuwen He and Zhihong Sun*



PAPERS

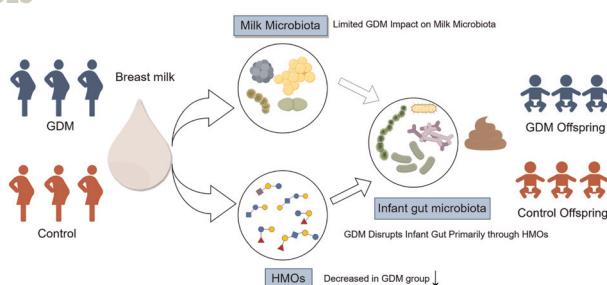
494



***N*-Acetylneurameric acid and 3'-sialyllactose supplementation unlock shared and unique atheroprotective mechanisms through the gut–liver–coronary axis in hypercholesterolemic *LDLR*^{-/-} mice**

Wei Zhang, Linlin Zhou, Xinyuan Huang, Xinning Zhao, Wenqing Bo, Dongbei Guo, Xiaoxuan Chen, Lili Pan and Hongwei Li*

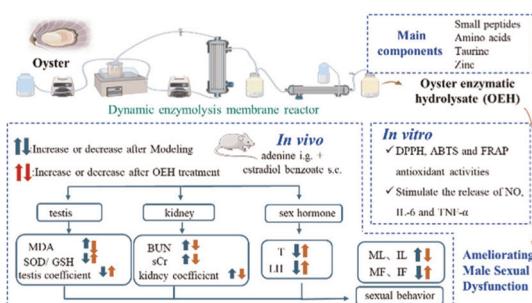
513



Influence of gestational diabetes mellitus on the breast milk microbiota and oligosaccharides and their effects on the infant gut microbiota

Feng Xu, Bo Yang,* Shumao Cui, Zhenyu Yang, Nan Dai, Catherine Stanton, R. Paul Ross, Jianxin Zhao, Jianqiang Lai, Wei Chen and Ye Wang*

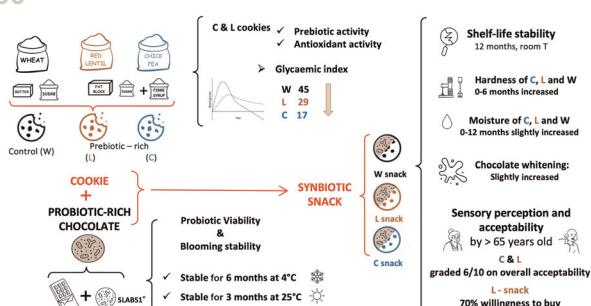
531



Oyster hydrolysate via dynamic enzymolysis ameliorates male sexual dysfunction in mice

Chunli Xu, Yuhong Huang, Junran Yin, Chengfei Liu, Dongyu An, Shiming Deng* and Guijin Liu*

550



Development of a synbiotic snack for gut–brain axis health

Xinying Suo, Marianna Tagliasco, Laura Bonfili, Francesco Maria Grasselli, Matteo Bonfini, Lucia Bailetti, Dennis Fiorini, Anna-Rita Attili, Shaymaa B. Abdulrazzaq, Anna Maria Eleuteri, Nicoletta Pellegrini* and Elena Vittadini*

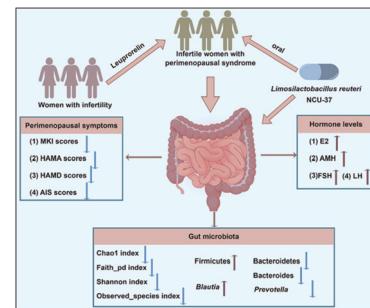


PAPERS

565

***Limosilactobacillus reuteri* NCU-37 alleviates leuprorelin-induced perimenopausal syndrome in infertile women by modulating the gut microbiota: a randomized controlled trial**

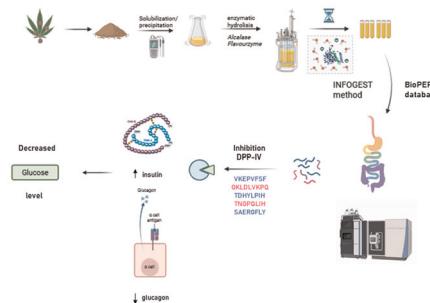
Xiaoyun Wu, Weijun Chen, Qianyu Yong, Qingwei Zeng, Jie You, Kangtai Zeng, Ting Li, Jing Wei, Yupei Xie,* Tangchang Xu* and Tingtao Chen*



577

Identification, characterization and resistance to digestion assessment of hemp-derived dipeptidyl-peptidase IV inhibitory peptides

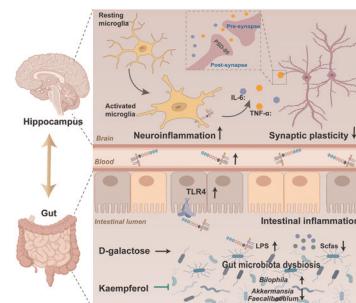
Miryam Amigo-Benavent, Fernando Rivero-Pino,* Alvaro Villanueva-Lazo, Sergio Montserrat-de la Paz, Richard J. Fitzgerald and Maria C. Millan-Linares



588

Dietary kaempferol attenuates aging-related cognitive decline through gut microbiota modulation and intestinal barrier strengthening with suppression of neuroinflammation in mice

Xintong Wang, Wen Zhang, Huihui Wang, Yuzhen Zhao, Pengjie Wang, Ran Wang, Yanan Sun, Fazheng Ren* and Yixuan Li*



CORRECTIONS

604

Correction: Inhibition of pro-atherogenic trimethylamine production from choline by human gut bacteria is not determined by varying chlorogenic acid content in highbush blueberries

Ashley M. McAmis, Michael G. Sweet, Sydney Chadwick-Corbin, Juanita G. Ratliff, Molla Fentie Mengist, Nahla V. Bassil, Pon Velayutham Anandh Babu, Massimo Iorizzo and Andrew P. Neilson*



CORRECTIONS

605

Correction: A *Ganoderma atrum* polysaccharide alleviated DSS-induced ulcerative colitis by protecting the apoptosis/autophagy-regulated physical barrier and the DC-related immune barrier

Bing Zheng, Mengxi Ying, Jianhua Xie, Yi Chen, Yudan Wang, Xiaomeng Ding, Jiaqian Hong, Wang Liao and Qiang Yu*

606

Correction: Brazilian passion fruit modulates vascular inflammation and gene networks of cholesterol metabolism in overweight individuals

Isabella de Araújo Esteves Duarte, Dragan Milenkovic, Layanne Nascimento Fraga, Camille Perella Coutinho, Ana Maria Costa, José Eduardo Tanus-Santos, Sandra O. Conde-Tella, Franco Maria Lajolo and Neuza Mariko Aymoto Hassimotto*

