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Cover
See Jingjing Jiao *et al.*, pp. 1670–1682.

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Inside cover
See Ting Zhang *et al.*, pp. 1683–1695.

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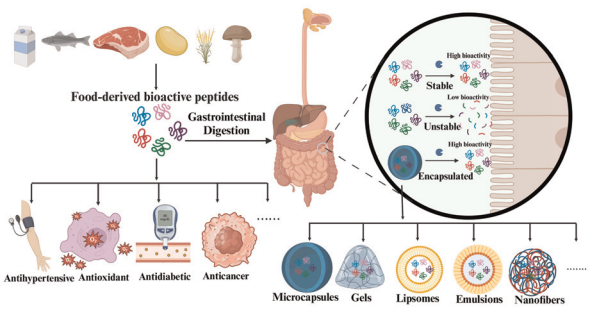
REVIEWS

1634

Recent advances in the effect of simulated gastrointestinal digestion and encapsulation on peptide bioactivity and stability

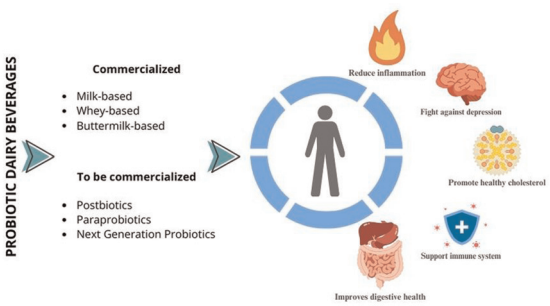
Chenlong Chen, Wancong Yu, Xiaohong Kou, Yujia Niu, Jiaxin Ji, Ying Shao, Shuqi Wu, Mengyi Liu and Zhaohui Xue*



1656

Recent updates of probiotic dairy-based beverages

Şevval Taşkoparan, Canan Altınay and H. Barbaros Özer*



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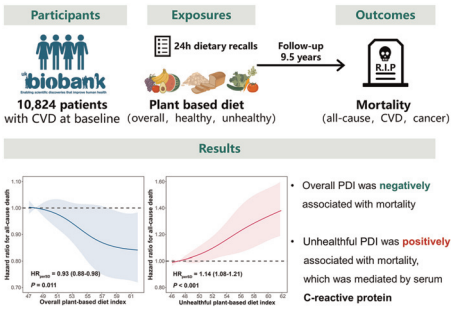
1670

Plant-based diets and all-cause and cause-specific mortality among patients with cardiovascular disease: a population-based cohort study

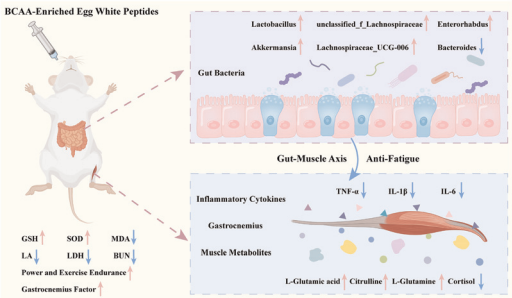
Xiaohui Liu, Yin Li, Fenglei Wang, Yang Ao, Pan Zhuang, Yu Zhang and Jingjing Jiao*



1683

Multi-omics analysis reveals the anti-fatigue mechanism of BCAA-enriched egg white peptides: the role of the gut–muscle axis

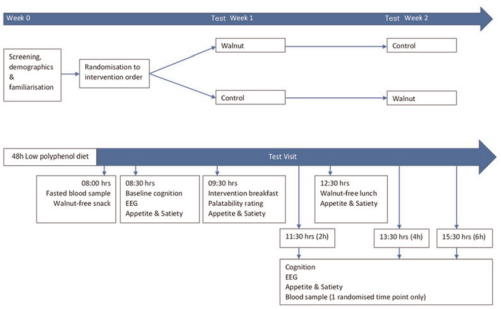
Shengrao Li, Jingbo Liu, Qi Yang, Siwen Lyu, Qingwen Han, Menghan Fu, Zhiyang Du, Xuanting Liu and Ting Zhang*



1696

The impact of a walnut-rich breakfast on cognitive performance and brain activity throughout the day in healthy young adults: a crossover intervention trial

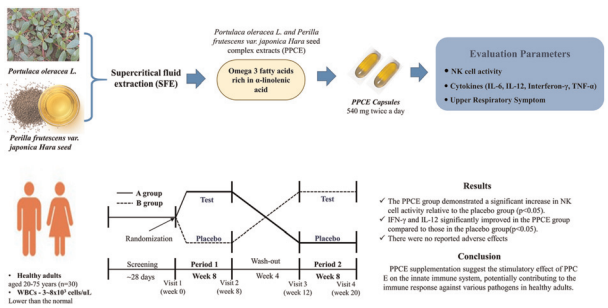
L. Bell, G. F. Dodd, M. Jeavons, D. R. Fisher, A. R. Whyte, B. Shukitt-Hale and C. M. Williams*



1708

Immunomodulatory effects of supercritical CO_2 extracted oils from *Portulaca oleracea* and *Perilla frutescens* (PPCE) in healthy individuals: a randomized double-blind clinical trial

Su-Jin Jung, Hyang-Im Baek, Eun-Ock Park, Ki-Chan Ha, Deuk-Seon Park, Soo-Wan Chae* and Seung-Ok Lee*



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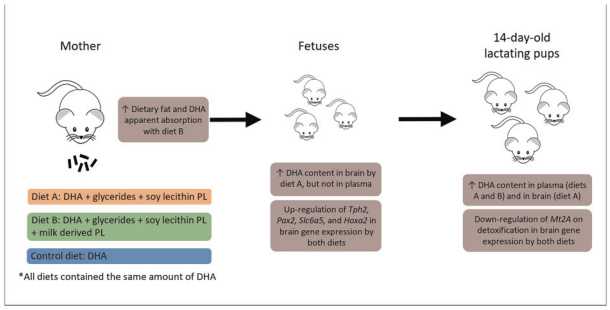
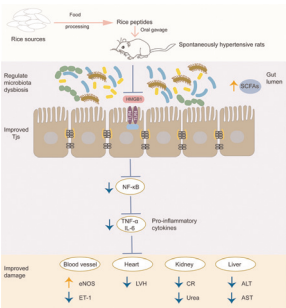
1720



Effects of new lipid ingredients during pregnancy and lactation on rat offspring brain gene expression

Valentina Origüela, Antonio Gázquez, María José López-Andreo, Pilar Bueno-Vargas, Mustafa Vurma, José M. López-Pedrosa, Brian J. Leyshon, Matthew Kuchan, Jia Pei Chan and Elvira Larqué*

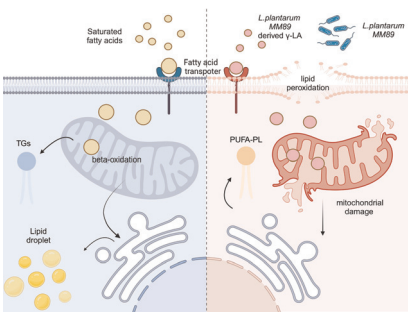
1731



Antihypertensive effects of rice peptides involve intestinal microbiome alterations and intestinal inflammation alleviation in spontaneously hypertensive rats

Juan Li, Wei Wei, Xiaomin Ma, Jing Ji, Xiaomeng Ling, Zhuyan Xu, Yutong Guan, Leyan Zhou, Qiming Wu, Wenhua Huang, Fuguo Liu and Min Zhao*

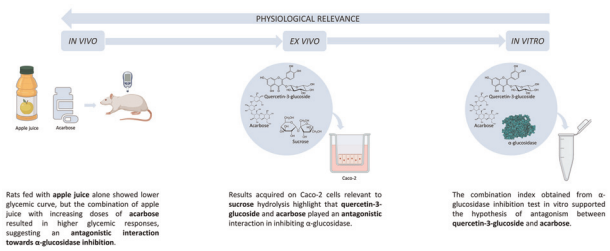
1760



γ-Linolenic acid derived from *Lactobacillus plantarum* MM89 induces ferroptosis in colorectal cancer

Yan Chen,* Yijie Zhang, Mengmeng Dai, Cheng Qiu, Qinsheng Sun, Tingting Fan, Yuan Guo, Liqing Zhao* and Yuyang Jiang*

1772



Investigating the hypoglycaemic potential of processed apple and acarbose combination *in vitro*, *ex vivo*, and *in vivo*: the role of quercetin-3-glucoside in steering α-glucosidase inhibition

Umberto Lanza, Marilisa Alongi,* Barbara Frossi, Carlo Pucillo, Monica Anese and Maria Cristina Nicoli

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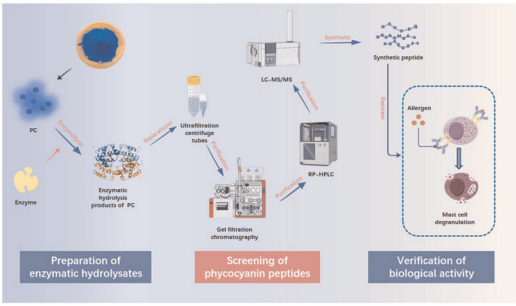
PAPERS

1781

Identification and efficacy of anti-allergic peptides from phycocyanin hydrolysate

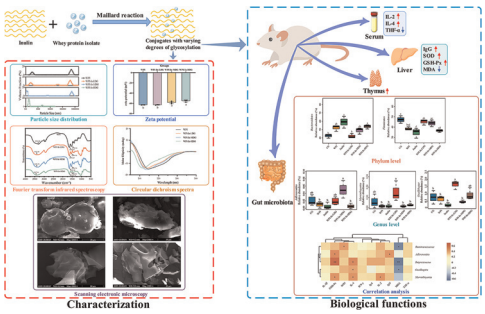
Jing Dai, Ishfaq Ahmed, Hailing Yin, Guojing Xu, Zongyu Zhang and Liangtao Lv*



1792

Effects of whey protein–inulin conjugates with varying degrees of glycosylation on hepatic antioxidant capacity, immunomodulation and gut microbiota in mice

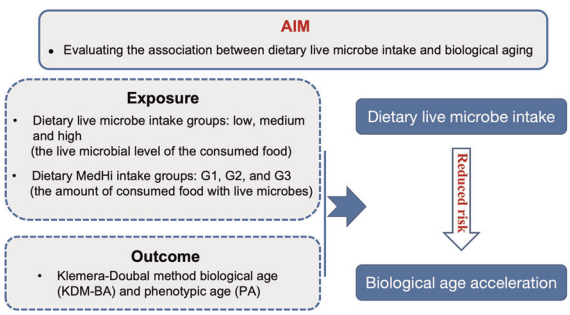
Shunyi Zhu, Xing Li, Shixuan Zhang, Ziwen Cai, Jianhao Sun, Qi Ju* and Diru Liu*



1809

Higher dietary intake of live microbes is inversely associated with accelerated biological aging

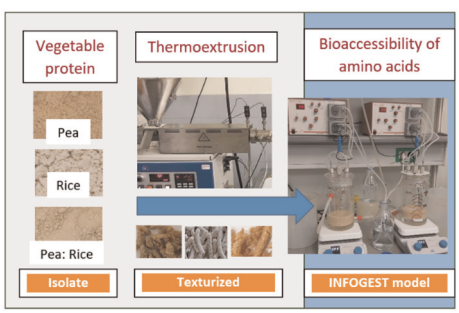
Da Gan, Xiaoyan Wang, Xuebiao Wu and Shuang Han*



1820

Effect of protein texturization on amino acids and protein *in vitro* bioaccessibility of pea and rice protein

Irene Peñaranda, María Dolores Garrido, Purificación García-Segovia, Javier Martínez-Monzó and Marta Igual*



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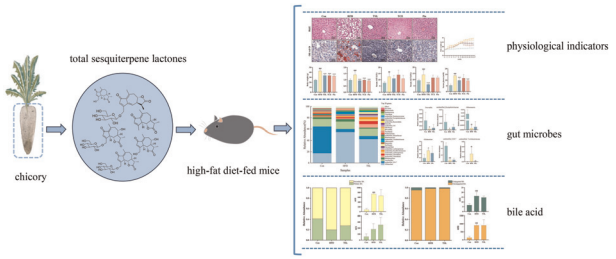
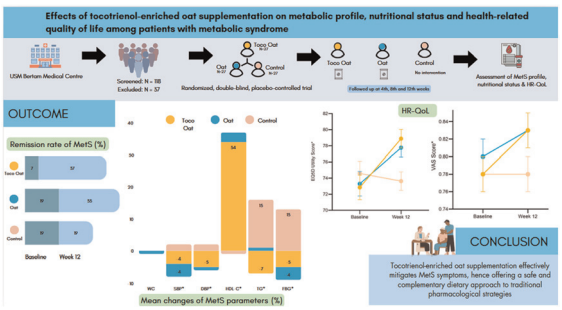
1830



Amelioration of metabolic syndrome in high-fat diet-fed mice by total sesquiterpene lactones of chicory *via* modulation of intestinal flora and bile acid excretion

Lushi Huang, Zhiwei Zhang, Fengqi Zhang, Weichen Zhang, Xiuhua Meng, Tunyu Jian, Xiaoqin Ding* and Jian Chen*

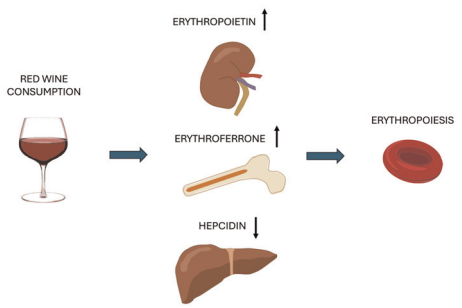
1847



Effects of tocotrienol-enriched oat supplementation on metabolic profile, nutritional status and health-related quality of life among patients with metabolic syndrome

Camilla Wahida Norazman, Mastura Mohd Sopian and Lai Kuan Lee*

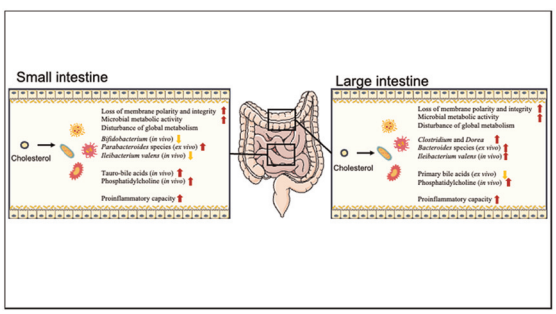
1864



Red wine consumption activates the erythropoietin–erythroferrone–hepcidin erythropoietic pathway in both apparently healthy individuals and patients with type 2 diabetes

Jurica Nazlić, Diana Gujinović, Ivana Mudnić, Zvonimir Boban, Ana Marija Dželalija, Leida Tandara, Katarina Gugo, Maja Radman, Vedran Kovačić and Mladen Boban*

1872



The microbiome- and metabolome-modulating activity of dietary cholesterol: insights from the small and large intestines

Yan Liu, Tian Zhao, Zhangtie Wang, Yansong Zhang, Jianfu Shen and Baiyi Lu*

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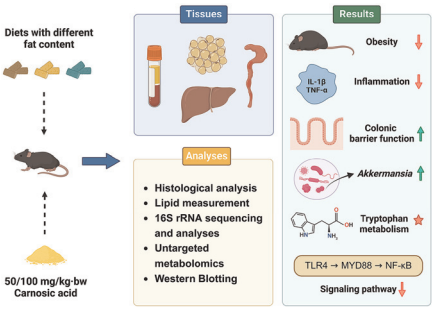
1888

Carnosic acid reduces lipid content, enhances gut health, and modulates microbiota composition and metabolism in diet-induced obese mice

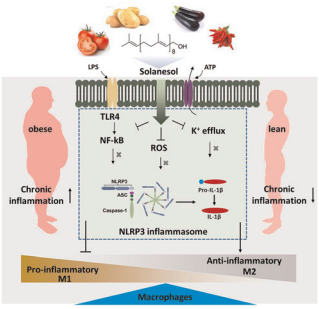
Jing Zhang, Mengzhu Shen, Yue Yin, Yuru Chen, Xianying Deng, Jingyun Mo, Xiaoling Zhou, Juanying Lin, Xinxin Chen, Xinwei Xie, Xian Wu* and Xuexiang Chen*



1903

Amelioration of obesity-associated disorders using solanesol with the mitigation of NLRP3 inflammasome activation and macrophage inflammation in adipose tissue

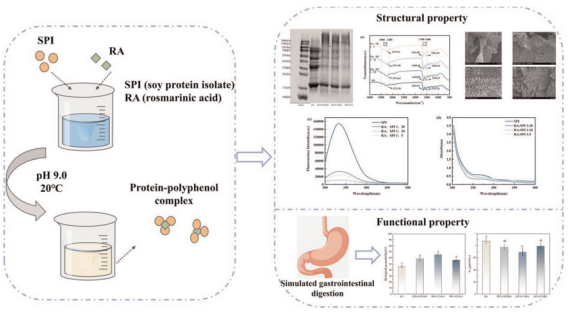
Xiaqing Wu, Huan Chen, Yushan Tian, Hongjuan Wang, Hongwei Hou,* Qingyuan Hu* and Congyi Wang*



1919

Functional properties amelioration of rosmarinic acid by covalently binding with soybean protein isolate

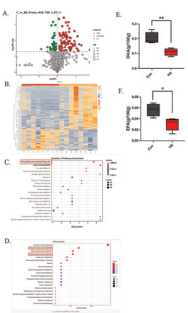
Ling Li, Zhong-Han Li, Jie Zhou, Kun-Long Wang, Ying-Hua Zhang* and Zhi-Shen Mu*



1931

Omega-3 PUFAs improve cognitive function in heat-stressed mice by enhancing autophagy *via* inhibition of the phosphorylation of the PI3K–Akt–mTOR pathway

Zifu Ren, Mengyu Cai, Xinyao Liu, Xin Li, Wenjing Shi, Hongtao Lu, Hui Shen, Gen Miao,* Qicheng Zhou* and Hongxia Li*



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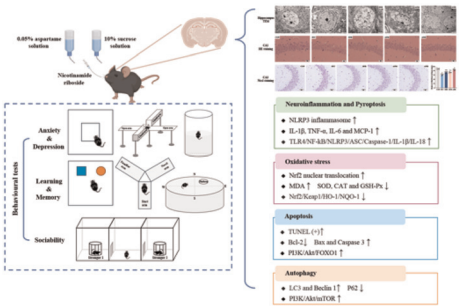
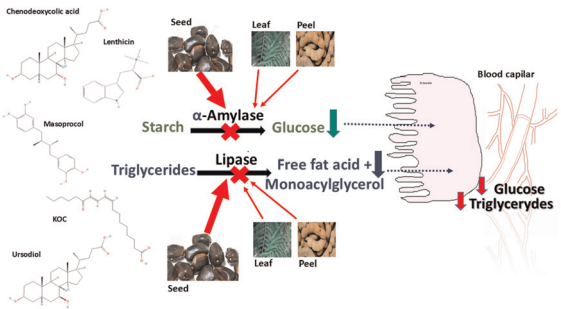
1947



Nicotinamide riboside alleviates sweeteners-induced brain and cognitive impairments in immature mice

Yushan Jiang, Huaqi Zhang, Jing Shi, Tianhu Shan, Man Liu, Peng Wang, Xi Liang and Hui Liang*

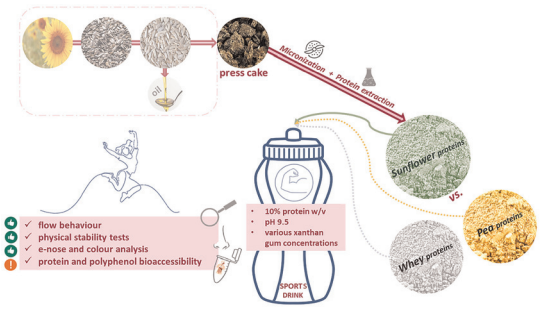
1969



Tamarindus indica sub-products as potential tools for simultaneous management of diabetes and obesity

Gustavo Henrique Souza, Beatriz Paes Silva, Gabriel Arcanjo Viana Neto, Tiane C. Finimundy, Thalita Faleiro Demito Santos, Paulo Sergio Alves Bueno, Felipe de Oliveira Souza, Eduardo J. Pilau, Lillian Barros, Jurandir F. Comar, Livia Bracht, Rosane M. Peralta, Adelar Bracht and Anacharis B. Sá-Nakanishi*

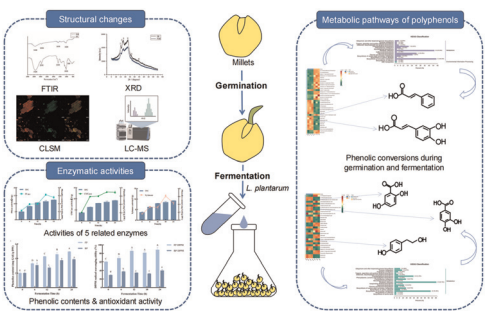
1992



Investigating the suitability of sunflower press-cake proteins in formulated sports beverages

Girotto Francesca, Ceccanti Costanza, Narra Federica and Piazza Laura*

2004



Mechanism of the release and transformation of polyphenols during germination and fermentation in millets: profile and metabolomics based analysis

Yu Wang, Yu Zhang, Sen Li, Kai Huang, Hongwei Cao, Wenjie Qiu and Xiao Guan*

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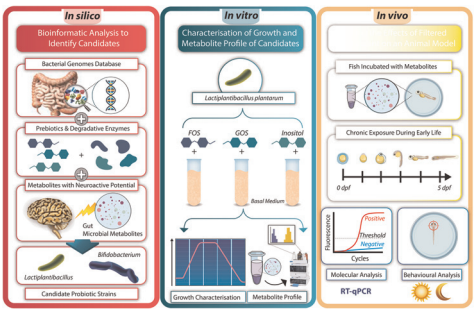
2018

From *in silico* screening to *in vivo* validation in zebrafish – a framework for reeling in the right psychobiotics

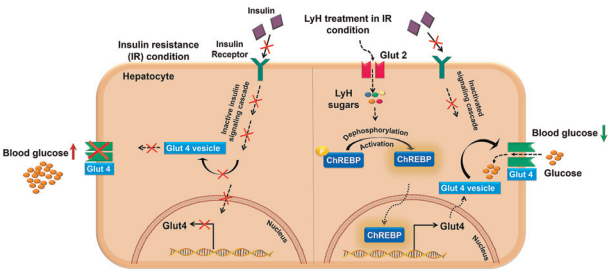
Benjamin Valderrama, Isabelle Daly, Eoin Gunnigle, Kenneth J. O'Riordan, Maciej Chichlowski, Sagarika Banerjee, Alicja A. Skowronski, Neeraj Pandey, John F. Cryan, Gerard Clarke* and Jatin Nagpal*



2031

Indian lychee honey ameliorates hepatic glucose uptake by regulating the ChREBP/Glut4 axis under insulin-resistant conditions

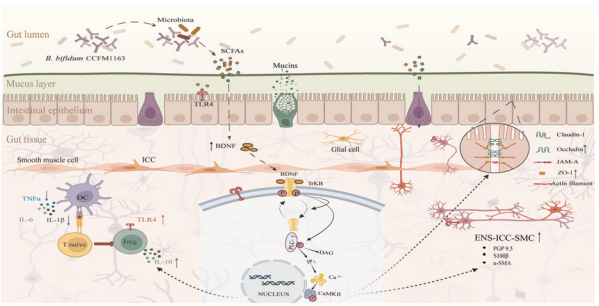
Chandrachur Ghosh, Tathagata Kundu, Tiyasa Pathak, Saakshi Saini, Neeladrisingha Das, Surendra Saini, Debabrata Sircar, Prabhat Kumar and Partha Roy*



2057

Bifidobacterium bifidum CCFM1163 alleviates cathartic colon by activating the BDNF-TrkB-PLC/IP_3 pathway to reconstruct the intestinal nerve and barrier

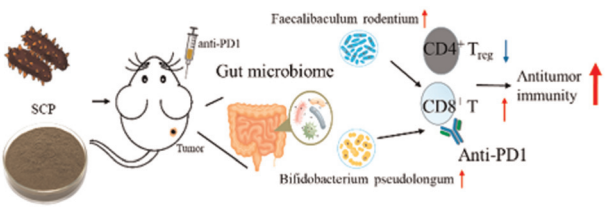
Shengnan Zhu, Qiangqing Yu, Yifan Xue, Jiazhen Li, Yin Huang, Wenxu Liu, Gang Wang, Linlin Wang,* Qixiao Zhai, Jianxin Zhao, Hao Zhang and Wei Chen



2073

Sea cucumber polysaccharides overcome immunotherapy resistance in tumor-bearing mice *via* modulation of the gut microbiome

Jiahui Li, Jinhui Jia, Yue Teng, Xiaojuan Wang, Xiaojun Xia, Shuang Song, Beiwei Zhu and Xiaodong Xia*



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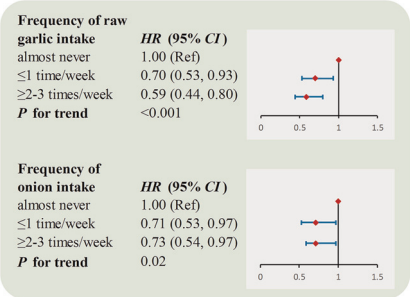
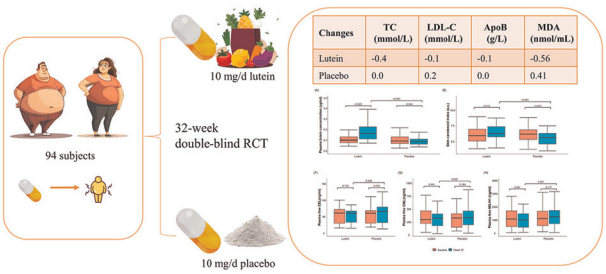
2084



Alliaceae vegetable consumption and sarcopenia: findings from the TCLSIH cohort study

Xuena Wang, Hao Geng, Jiaoyang Li, Ge Meng,* Hongmei Wu, Yeqing Gu, Jian Huang, Junsheng Huo, Bing Zhang, Gangqiang Ding and Kaijun Niu*

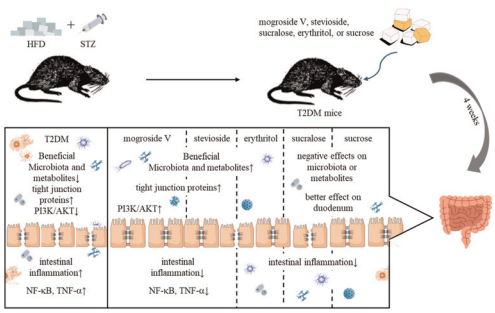
2096



Effect of lutein supplementation on blood lipids and advanced glycation end products in adults with central obesity: a double-blind randomized controlled trial

Juan Zhou, Shanshan Wang, Qiang Wang, Rui Zhao, Dongxia Wang, Huihui Xie, Yatan Du, Yue Xu, Jin Deng, Yue Huang, YuanHua Liu, Xiaolin Peng,* Liping Hao* and Liegang Liu

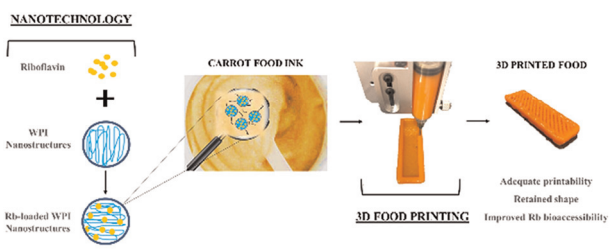
2108



Comparative effects of different sugar substitutes: Mogroside V, stevioside, sucralose, and erythritol on intestinal health in a type 2 diabetes mellitus mouse

Huaxue Huang, Sha Liu, Zhi Peng, Bin Wang, Shuang Zhan, Sirui Huang, Wei Li, Dai Liu, Xiulian Yang, Yizhun Zhu* and Wenjun Xiao*

2124



Development of 3D-printed foods incorporating riboflavin-loaded whey protein isolate nanostructures: characterization and *in vitro* digestion

João F. Araújo, Jean-Michel Fernandes, Daniel Madalena, Raquel F. S. Gonçalves, Jorge M. Vieira, Joana T. Martins, António A. Vicente and Ana C. Pinheiro*

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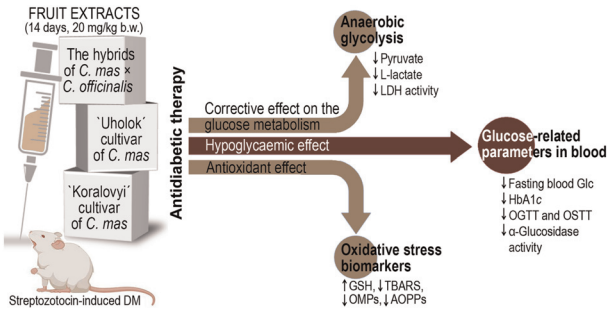
PAPERS

2136

Alleviation of hyperglycaemia and oxidative stress by fruit extracts of different cultivars of the cornelian cherry (*Cornus mas* L. and *Cornus mas* × *Cornus officinalis*) in rats with diabetes mellitus

Iryna Brodyak,* Anna Moroz, Karolina Bernacka, Alicja Z. Kucharska and Nataliia Sybirna



CORRECTION

2156

Correction: Protective effects of potential probiotic *Lactobacillus rhamnosus* (MTCC-5897) fermented whey on reinforcement of intestinal epithelial barrier function in a colitis-induced murine model

Harpreet Kaur, Taruna Gupta, Suman Kapila and Rajeev Kapila*