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Food & Function

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IN THIS ISSUE

ISSN 2042-650X CODEN FFOUAI 15(11) 5667–6202 (2024)

Cover
See Xiao-Feng Li, Xuan Xin *et al.*, pp. 5785–5796.

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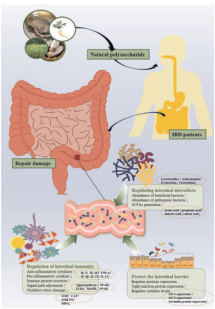
REVIEWS

5680

Research progress in the treatment of inflammatory bowel disease with natural polysaccharides and related structure–activity relationships

Jiaqi Chen, Yanan Gao, Yanqiu Zhang and Mingxing Wang*



5703

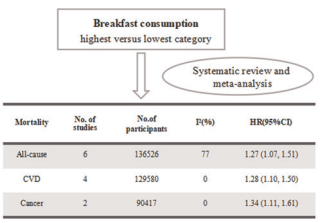
Breakfast skipping and risk of all-cause, cardiovascular and cancer mortality among adults: a systematic review and meta-analysis of prospective cohort studies

Yanqi Wang, Fengjuan Li, Xinying Li, Jun Wu, Xiaojuan Chen, Yuhao Su, Tianhang Qin, Xiaoning Liu, Lei Liang, Jianping Ma and Pei Qin*

HIGHLIGHTS

- Breakfast skipping increased the risks of all-cause, CVD, and cancer mortality in adults.
- Effects on studies with larger sample sizes, longer follow-up, and adjustments for energy intake are significant.
- More research needed across varied regions and cancer types.

GRAPHICAL ABSTRACT



Mortality	No. of studies	No.of participants	I²(%)	HR(95%CI)
All-cause	6	136526	77	1.27 (1.07, 1.51)
CVD	4	129580	0	1.28 (1.10, 1.50)
Cancer	2	90417	0	1.34 (1.11, 1.61)

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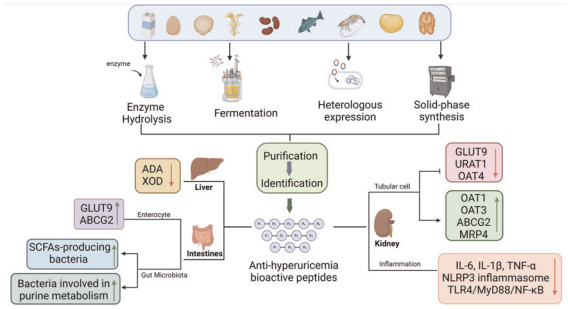
REVIEWS

5714

Anti-hyperuricemia bioactive peptides: a review on obtaining, activity, and mechanism of action

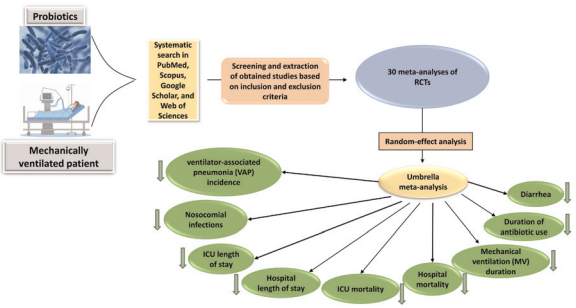
Ying Chen, Hongyan Li, Yunfei Cai, Ke Wang and Yousheng Wang*



5737

The effectiveness of probiotics as an adjunct therapy in patients under mechanical ventilation: an umbrella systematic review and meta-analysis

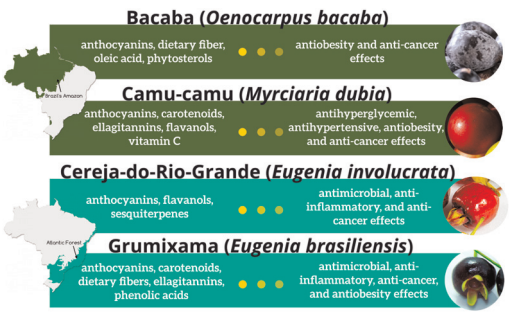
Paniz Anvarifard, Maryam Anbari, Faezeh Ghalichi, Zohreh Ghoreishi* and Meysam Zarezadeh*



5752

Emerging berries from the Brazilian Amazon and Atlantic Forest biomes: new sources of bioactive compounds with potential health benefits

Nathan Hargreaves Noguera, Dyana Carla Lima Hargreaves Noguera, Ana Paula da Fonseca Machado, Livia Mateus Reguengo and Roberto de Paula do Nascimento*

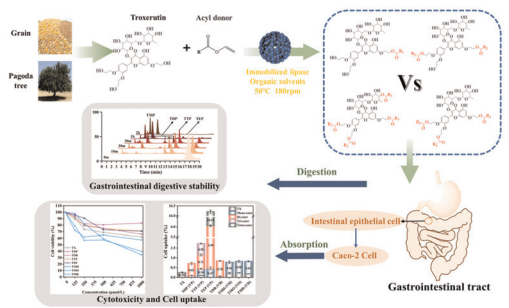


PAPERS

5785

Efficient regioselective enzymatic acylation of troxerutin: difference characterization of *in vitro* cellular uptake and cytotoxicity

Li-sha Hao, Meng-meng Zhang, Xiao-Feng Li,* Xuan Xin* and Guang-lei Zhao



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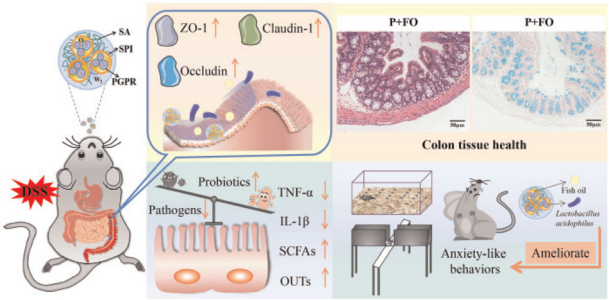
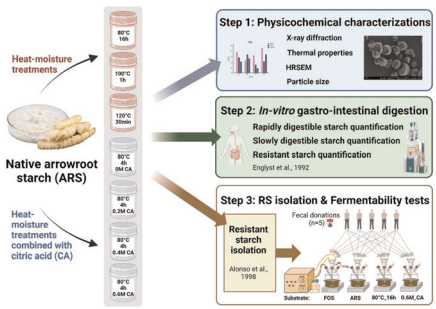


Effectiveness of probiotic- and fish oil-loaded water-in-oil-in-water ($W_1/O/W_2$) emulsions at alleviating ulcerative colitis

Qingzhuo Gu, Zhaowei Jiang, Kun Li, Yueting Li, Xiaojia Yan, David Julian McClements, Cuicui Ma and Fuguo Liu*

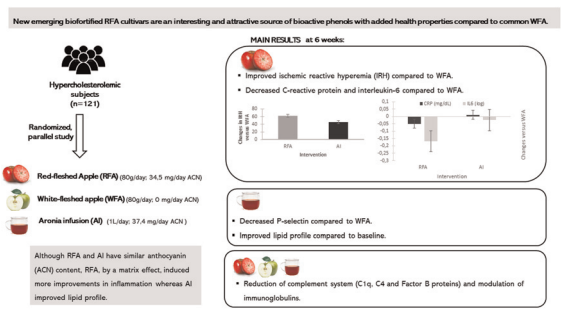
5813



Heat-moisture and acid treatments can increase levels of resistant starch in arrowroot starch without adversely affecting its prebiotic activity in human colon microbiota

Hila Tarazi-Riess, Carmit Shani-Levi and Uri Lesmes*

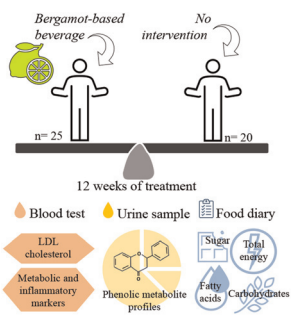
5825



A red-fleshed apple rich in anthocyanins improves endothelial function, reduces inflammation, and modulates the immune system in hypercholesterolemic subjects: the AppleCOR study

A. Pedret, J. Companys, L. Calderón-Pérez, E. Llauradó, L. Pla-Pagà, P. Salamanca, B.-A. Sandoval-Ramírez, Ú. Catalán, S. Fernández-Castillejo, S. Yuste, A. Macià, L. Gutiérrez-Tordera, M. Bulló, J. Camps, N. Canela, R. M. Valls,* L. Rubió-Piqué, M. J. Motilva and R. Solà

5842



Chronic consumption of a bergamot-based beverage does not affect glucose, lipid and inflammatory biomarkers of cardiometabolic risk in healthy subjects: a randomised controlled intervention study

Giulia Maggiolo, Raffaella Aldigeri, Cecilia Savini, Martina Mengani, Marta Maggi, Giulia Frigeri, Valentina Spigoni, Gloria Cinquegrani, Federica Fantuzzi, Leonardo Di Donna, Nicole Tosi, Federica Bergamo, Letizia Bresciani, Alice Rosi, Pedro Mena, Francesca Scazzina, Daniele Del Rio, Riccardo C. Bonadonna and Alessandra Dei Cas*

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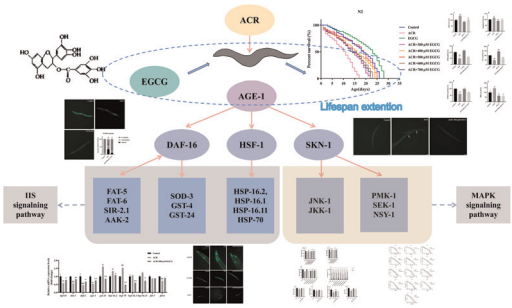
5855

Protective effects of EGCG on acrolein-induced *Caenorhabditis elegans* and its mechanism of life extension

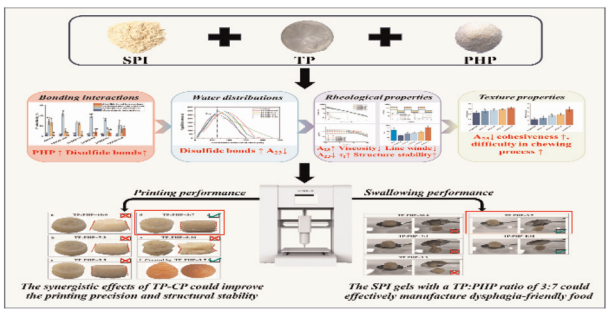
Yiming Song, Danyang Liu, Jiayan Xie, Jianhua Xie, Yi Chen, Xinyi Chen, Xiaobo Hu and Qiang Yu*



5868

Development of soy protein isolate gels added with *Tremella* polysaccharides and psyllium husk powder as 3D printing inks for people with dysphagia

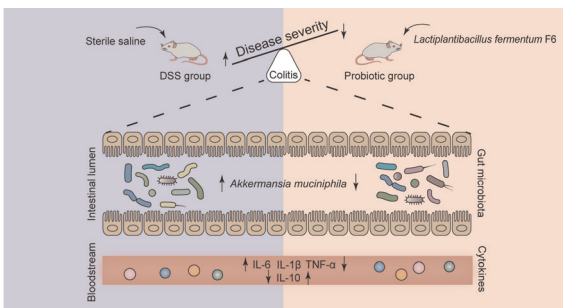
Fang-Wei Liu, Xiao-Xiao Song, Shui-Gen Bian, Xiao-Jun Huang, Jun-Yi Yin and Shao-Ping Nie*



5882

Administering *Lactiplantibacillus fermentum* F6 decreases intestinal *Akkermansia muciniphila* in a dextran sulfate sodium-induced rat colitis model

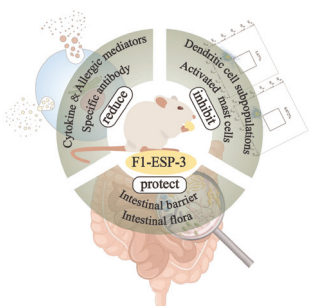
Qiuwen He, Tao Zhang, Weiqin Zhang, Cuijiao Feng, Lai-Yu Kwok, Heping Zhang and Zhihong Sun*



5895

***In vivo* evaluations of *Lactobacillus*-fermented *Eucheuma spinosum* polysaccharides on alleviating food allergy activity**

Jun Zhang, Qingmei Liu, Fudie Gu, Yan Li, Huiying Chen, Meng Liu, Yu Zhou, Hong Liu, Xiaofeng Wei and Guangming Liu*



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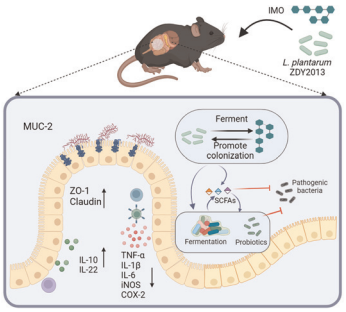
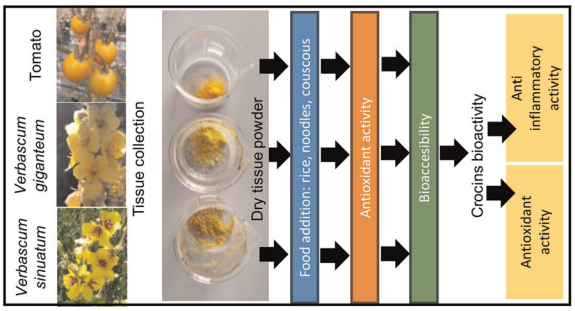


Dietary supplementation with non-digestible isomaltooligosaccharide and *Lactiplantibacillus plantarum* ZDY2013 ameliorates DSS-induced colitis *via* modulating intestinal barrier integrity and the gut microbiota

Zhihong Zhang, Yingsheng Hu, Na Zhang, Jinmei Li, Jinlin Lu and Hua Wei*

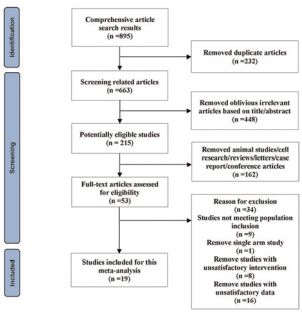
5921



Evaluation of *Verbascum* flower extracts as a natural source of pigments with potential health benefits

Lucía Morote, Cristian Martínez Fajardo, Eduardo Parreño, Alberto José López Jiménez, Alejandro Santiago, Oussama Ahrazem, Ángela Rubio-Moraga and Lourdes Gómez-Gómez*

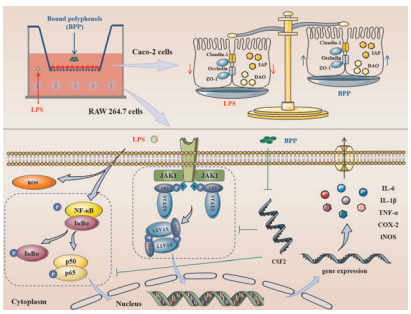
5929



The association between polyunsaturated fatty acids and chronic obstructive pulmonary disease: a meta-analysis

Zhe Piao, Bowen Chai, Yuxiao Wu, Houze Diao, Qingzhen He, Qingzhao Zheng, Feifei Yan* and Weiwei Cui*

5942



Bound polyphenols in insoluble dietary fiber of navel orange peel modulate LPS-induced intestinal-like co-culture inflammation through CSF2-mediated NF-κB/JAK-STAT pathway

Xinxin Chang, Bing Zheng, Yue Guo, Yi Chen, Jianhua Xie, Jialuo Shan, Yudan Wang, Puyou Xue, Xiaoyi Hu, Xiaobo Hu and Qiang Yu*

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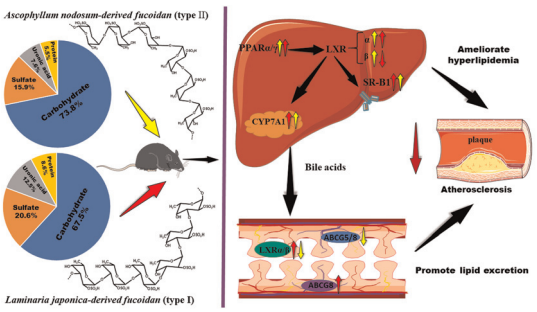
5955

A comparative study of the hypolipidemic effects and mechanisms of action of *Laminaria japonica*- and *Ascophyllum nodosum*-derived fucoidans in apolipoprotein E-deficient mice

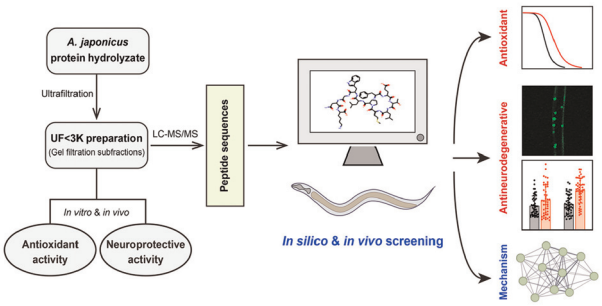
Tian Liu, Xue Wang, Yan-Ming Wang, Feng-Rong Sui, Xue-Ying Zhang, Hai-Di Liu, Dong-Yue Ma, Xiao-Xiao Liu* and Shou-Dong Guo*



5972

***In silico* and *in vivo* discovery of antioxidant sea cucumber peptides with antineurodegenerative properties**

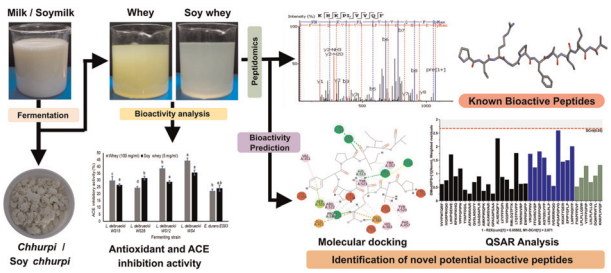
Qiangqiang Wang, Ming Liang, Yue Xiao, Zhenhua Li, Xiaohe Chen, Peng Cheng, Bing Qi, Yi Yu, Tao Lei* and Zebo Huang*



5987

Exploring peptidomes of by-products generated during *chhurpi* production using *Lactobacillus delbrueckii* WS4 for identification of novel bioactive peptides

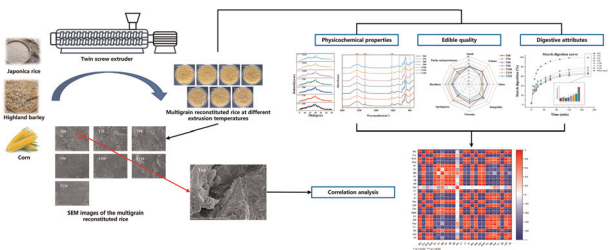
Rounak Chourasia, Gayatri Dabrha, Md Minhajul Abedin, Loreni Chiring Phukon, Ashish Kumar Singh, Dinabandhu Sahoo, Sudhir P. Singh* and Amit Kumar Rai*



6000

Effects of different extrusion temperatures on the physicochemical properties, edible quality and digestive attributes of multigrain reconstituted rice

Ruohai Liu, Zhanhui Geng, Ting Li, Ming Zhang, Congnan Zhang, Tianjiao Ma, Zhicun Xu, Shunqian Xu, He Liu, Xinxia Zhang and Li Wang*



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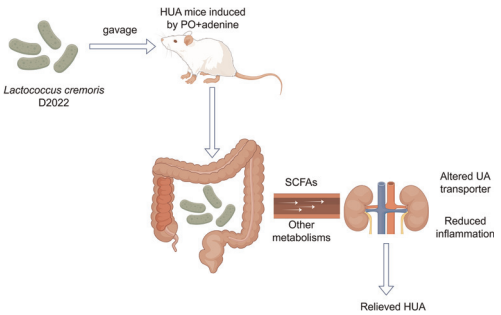
PAPERS

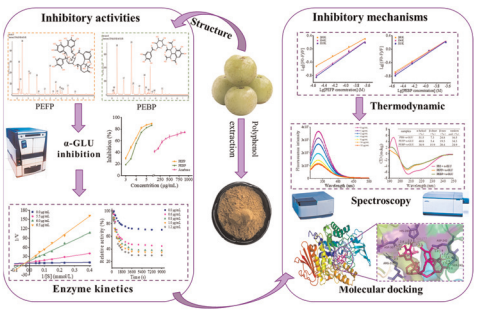
6015



***Lactococcus cremoris* D2022 alleviates hyperuricemia and suppresses renal inflammation *via* potential gut-kidney axis**

Zhihuan Wang, Yuanming Huang, Tao Yang, Liqiong Song, Yuchun Xiao, Yulu Chen, Mengshan Chen, Mingding Li and Zhihong Ren*

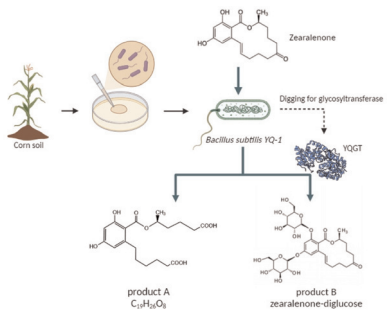
6028



Inhibitory activities and mechanisms of free and bound phenolics on α-glucosidase in fresh fruits of *Phyllanthus emblica* Linn. using spectroscopy and molecular docking

Mingxia Xing, Fan Xie, Jingyi Zeng, Zengjin Zhu, Guangqiang Wang, Yongjun Xia, Hui Zhang, Zibo Song and Lianzhong Ai*

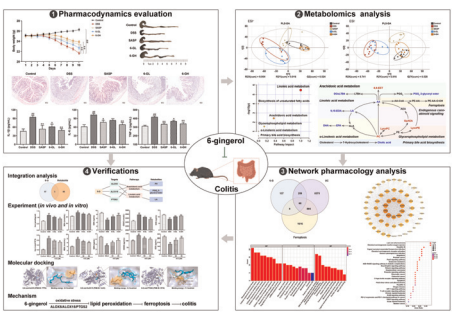
6042



A novel glycosyltransferase from *Bacillus subtilis* achieves zearalenone detoxification by diglycosylation modification

Yuqun Zhou, Jiguo Yang, Yuanshan Yu and Yuqian Tang*

6054



6-Gingerol ameliorates ulcerative colitis by inhibiting ferroptosis based on the integrative analysis of plasma metabolomics and network pharmacology

Wenwen Li, Yun Zhang, Quyi Wang, Yu Wang, Yuwen Fan, Erxin Shang, Shu Jiang* and Jinao Duan*

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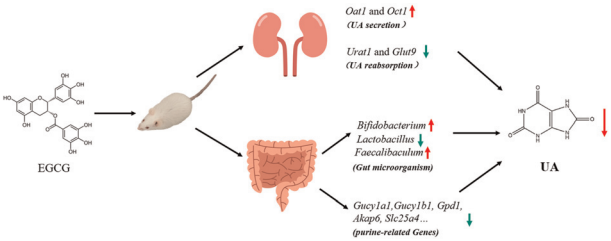
6068

Mechanisms of epigallocatechin gallate (EGCG) in ameliorating hyperuricemia: insights into gut microbiota and intestinal function in a mouse model

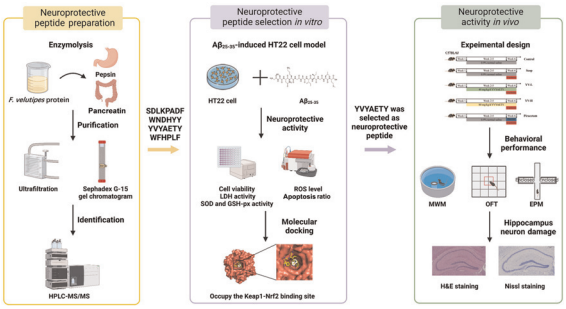
Haonan Yu, Zhenyou Lou, Tingbo Wu, Xiaochun Wan, Haitao Huang, Yuanyuan Wu, Bo Li, Youying Tu, Puming He and Junsheng Liu*



6082

A novel neuroprotective peptide YVYAETY identified and screened from *Flammulina velutipes* protein hydrolysates attenuates scopolamine-induced cognitive impairment in mice

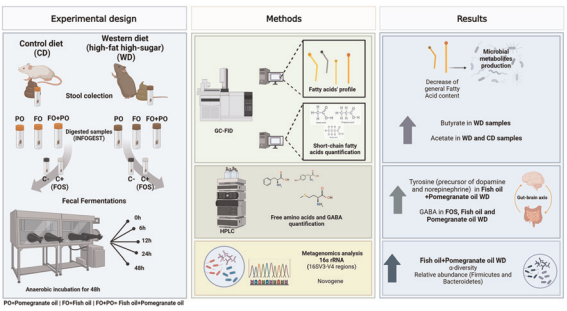
Yutong Dong, Qiuhui Hu, Liyan Zhao, Gaoxing Ma, Ning Ma, Junmiao Zhang, Yang Ji and Li Liu*



6095

The use of an *in vitro* fecal fermentation model to uncover the beneficial role of omega-3 and punicic acid in gut microbiota alterations induced by a Western diet

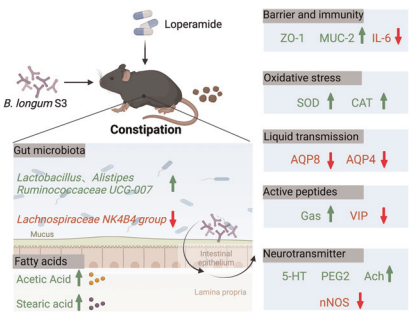
Ana Sofia Salsinha, André Cima, Helena Araújo-Rodrigues, Sofia Viana, Flávio Reis, Ezequiel R. Coscueta, Luis Miguel Rodríguez-Alcalá, João B. Relvas and Manuela Pintado*



6118

***Bifidobacterium longum* S3 alleviates loperamide-induced constipation by modulating intestinal acetic acid and stearic acid levels in mice**

Tong Zhang, Huimin Lu, Ting Cheng, Linlin Wang,* Gang Wang, Hao Zhang and Wei Chen



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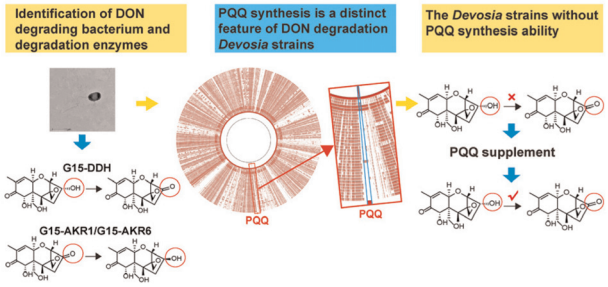
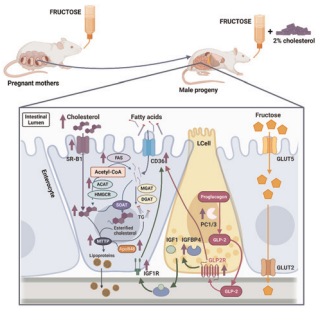


Pyrroloquinoline quinone production defines the ability of *Devosia* species to degrade deoxynivalenol

Chongwen Guo, Jikai Wen, Yu Sun, Guoqiang Liang, Zijiao Wang, Lulu Pan, Jiarun Huang, Yuanxin Liao, Zeyuan Wang, Qingmei Chen, Peiqiang Mu* and Yiqun Deng*

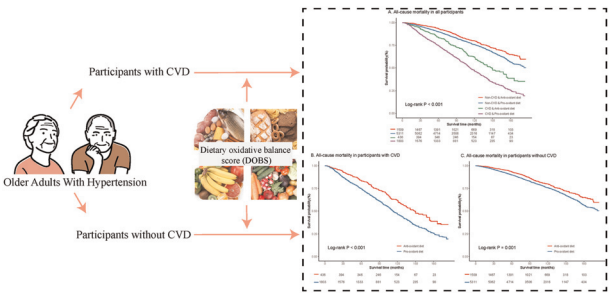
6147



Maternal fructose intake aggravates the harmful effects of a Western diet in rat male descendants impacting their cholesterol metabolism

E. Fauste, M. I. Panadero, M. Pérez-Armas, C. Donis, P. López-Laiz, J. Sevillano, M. G. Sánchez-Alonso, M. P. Ramos-Álvarez, P. Otero and C. Bocos*

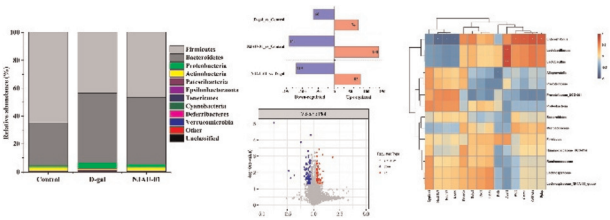
6164



Interactive association of the dietary oxidative balance score and cardiovascular disease with mortality in older adults: evidence from NHANES

HuanRui Zhang, Wen Tian, GuoXian Qi, BaoSen Zhou and YuJiao Sun*

6174



The ameliorative mechanism of *Lactiplantibacillus plantarum* NJAU-01 against D-galactose induced oxidative stress: a hepatic proteomics and gut microbiota analysis

Du-xin Jin, Chao-yang Jia, Bo Yang, Yue-hao Wu, Lei Chen, Rui Liu, Man-gang Wu, Hai Yu and Qing-feng Ge*

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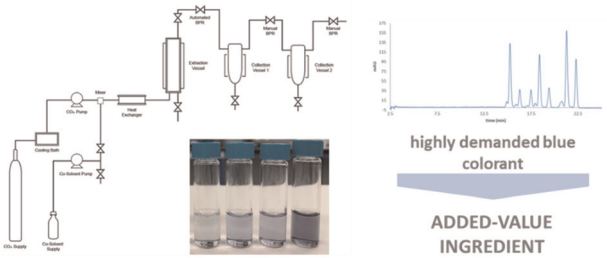
PAPERS

6189

Compressed fluid-based technology for downstream isolation of bluish anthocyanin-derived pigments obtained from blueberry surplus

Ana N. Nunes,* Joana Oliveira, Maria Rosário Bronze and Ana A. Matias



CORRECTION

6199

Correction: Gastric coagulation and postprandial amino acid absorption of milk is affected by mineral composition: a randomized crossover trial

Elise J. M. van Eijnatten,* Julia J. M. Roelofs, Guido Camps, Thom Huppertz, Tim T. Lambers and Paul A. M. Smeets