

# 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(3) 1055-1722 (2024)



### Cover

See Tao Xiong *et al.*,  
pp. 1170–1190.

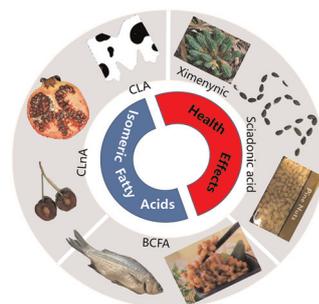
Image reproduced by  
permission of Tao Xiong  
from *Food Funct.*,  
2024, **15**, 1170.

## REVIEWS

1071

### Fatty acid isomerism: analysis and selected biological functions

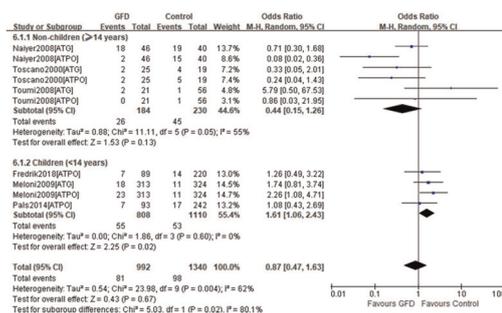
Zhen Wang, Tingxiang Yang, J. Thomas Brenna\* and Dong Hao Wang\*



1089

### The association of gluten-free diet with thyroid autoimmunity in patients with celiac disease: a meta-analysis

Yan Liu, Nan Yao, Yuxiang Wang, Yibo Dong, Ling Wang, Fengdan Wang, Zibo Wu, Sizhe Wang and Bo Li\*



# RSC Applied Interfaces

GOLD  
OPEN  
ACCESS

Interfacial and surface research  
with an applied focus

Interdisciplinary and open access

[rsc.li/RSCApplInter](https://rsc.li/RSCApplInter)

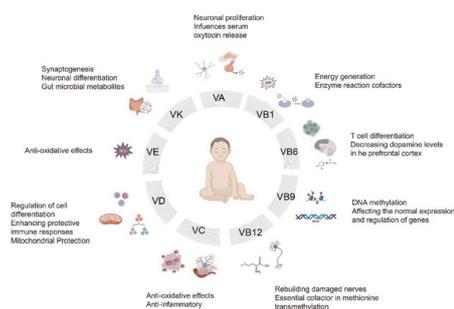
Fundamental questions  
Elemental answers

## REVIEWS

1099

## The role and impact of abnormal vitamin levels in autism spectrum disorders

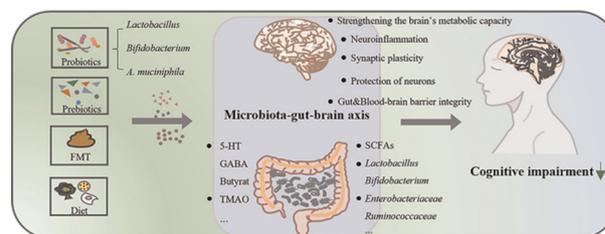
Jingjing Cui, Zidan Zhai, Shumin Wang, Xiaoyue Song, Ting Qiu, Leilei Yu, Qixiao Zhai\* and Heng Zhang\*



1116

## Gut microbiome-based therapies for alleviating cognitive impairment: state of the field, limitations, and future perspectives

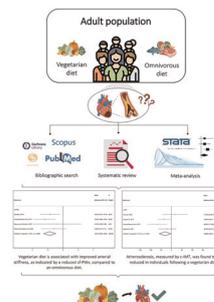
Linli Bu, Chen Wang, Junying Bai, Jiajia Song, Yuhong Zhang, Hongyu Chen and Huayi Suo\*



1135

## Differences in carotid to femoral pulse wave velocity and carotid intima media thickness between vegetarian and omnivorous diets in healthy subjects: a systematic review and meta-analysis

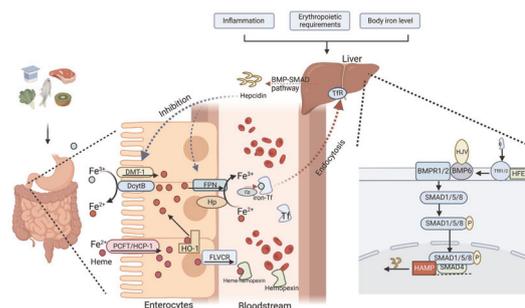
Alicia Saz-Lara, Maurizio Battino, Andrea del Saz Lara,\* Iván Cavero-Redondo, Alberto Dávalos, María-Carmen López de Las Hazas, Francesco Visioli, Maribel Lucerón-Lucas-Torres and Francesca Giampieri



1144

## Iron deficiency anemia: a critical review on iron absorption, supplementation and its influence on gut microbiota

Bolun Sun, Beibei Tan, Panxue Zhang, Lianlian Zhu, Huamao Wei, Tao Huang, Chao Li and Wenge Yang\*



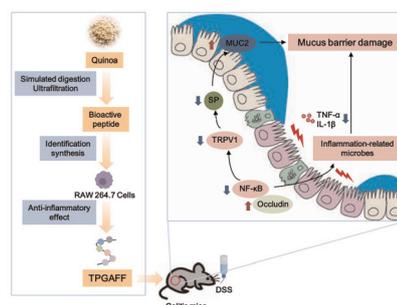


## PAPERS

1223

### A quinoa peptide protects impaired mucus barriers in colitis mice by inhibiting NF- $\kappa$ B-TRPV1 signaling and regulating the gut microbiota

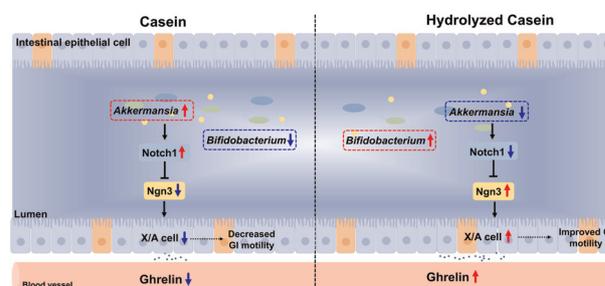
Luanfeng Wang, Shufeng Wu, Tong Chen, Ling Xiong, Fang Wang, Haizhao Song, Jianxin Zhou, Shixiang Wei, Bo Ren\* and Xinchun Shen\*



1237

### A hydrolyzed casein diet promotes Ngn3 controlling enteroendocrine cell differentiation to increase gastrointestinal motility in mice

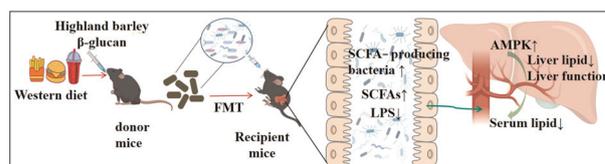
Siqiang Liu, Haining Zhu, Yuting Ren, Wenlu Fan, Haiqin Wu, Huipeng Wu, Zan Huang\* and Weiyun Zhu\*



1250

### Highland barley $\beta$ -glucan supplementation attenuated hepatic lipid accumulation in Western diet-induced non-alcoholic fatty liver disease mice by modulating gut microbiota

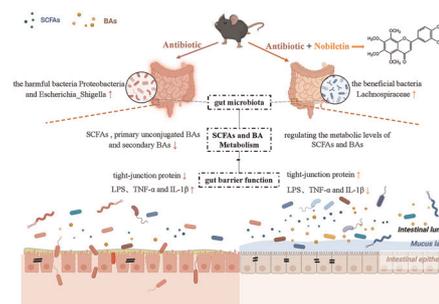
Huicui Liu, Chenxi Nie, Xinzhong Hu and Juxiu Li\*



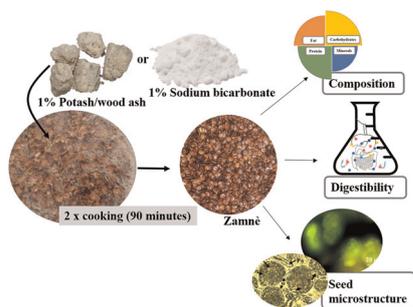
1265

### Dietary nobiletin regulated cefuroxime- and levofloxacin-associated "gut microbiota-metabolism" imbalance and intestinal barrier dysfunction in mice

Minmin Zhan, Xiaoshuang Yang, Chenxi Zhao, Yanhui Han, Peichun Xie, Zheqi Mo, Jie Xiao, Yong Cao, Hang Xiao and Mingyue Song\*



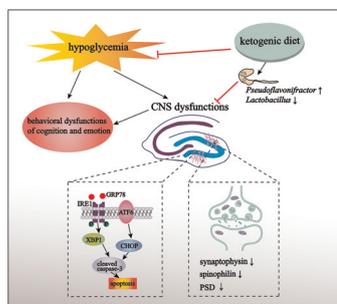
1279



### Nutritional quality of the traditionally cooked Zamnè, a wild legume and a delicacy in Burkina Faso: assessment of the process effectiveness and the properties of cooking alkalis

Moustapha Soungalo Drabo,\* Habtu Shumoy, Bruno De Meulenaer, Aly Savadogo and Katleen Raes\*

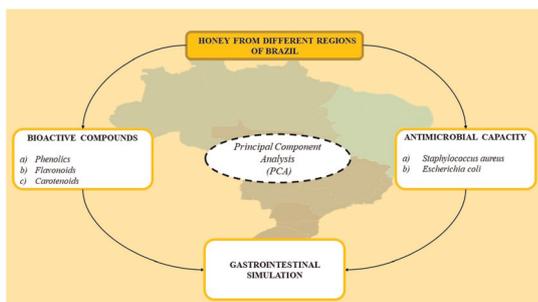
1294



### Ketogenic diet attenuates cognitive dysfunctions induced by hypoglycemia via inhibiting endoplasmic reticulum stress-dependent pathways

Cixia Li, Yue Ma, Xuejun Chai, Xiao Feng, Wenyu Feng, Yongkang Zhao, Chaochu Cui, Jianguo Wang,\* Shanting Zhao\* and Xiaoyan Zhu\*

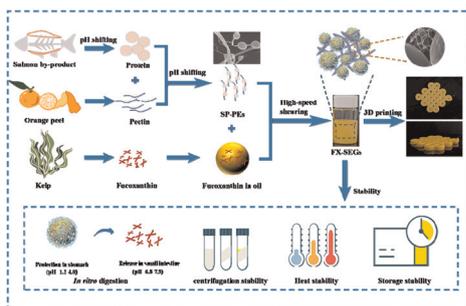
1310



### Bioactive compounds of honey from different regions of Brazil: the effect of simulated gastrointestinal digestion on antioxidant and antimicrobial properties

Marla Alcoléa, Marcel Bueno Santana Junior, Keily Alves de Moura Oliveira, Loyse Tussoini, Mércia Aurélio Gonçalves Leite, Adenilda Cristina Honorio-França, Eduardo Luzia França and Paula Becker Pertuzatti\*

1323



### Incorporation of fucoxanthin into 3D printed Pickering emulsion gels stabilized by salmon by-product protein/pectin complexes

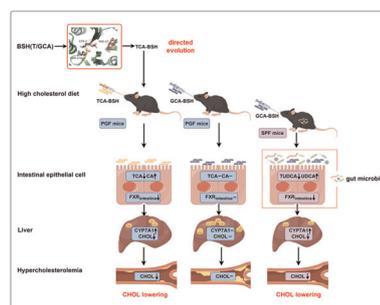
Xu Zhong, Kuiyou Wang, Zhejin Chen, Siyuan Fei, Jiaxuan Li, Mingqian Tan and Wentao Su\*



1340

### Cholesterol lowering in diet-induced hypercholesterolemic mice using *Lactobacillus* bile salt hydrolases with different substrate specificities

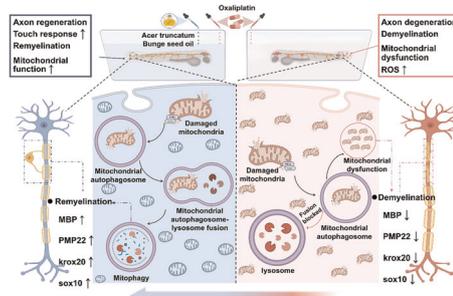
Menghuan Zhao, Weijia Kuang, Jiaxin Yang, Yanrong Liu, Miao Yang, Ying Chen, Huanjing Zhu and Yao Yang\*



1355

### *Acer truncatum* Bunge seed oil ameliorated oxaliplatin-induced demyelination by improving mitochondrial dysfunction via the Pink1/Parkin mitophagy pathway

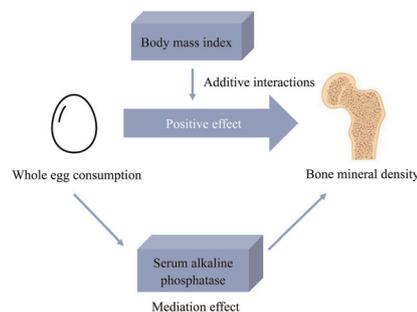
Dekun Cheng, Zhangtie Wang, Xin Guo, Yiwen Guo, Yu Zhang, Yuanhui Zhao, Ruijie Liu and Ming Chang\*



1369

### Whole egg consumption in relation to bone health of the US population: a cross-sectional study

Da Shi, Wei Liu, Jiayi Hang and Weihong Chen\*

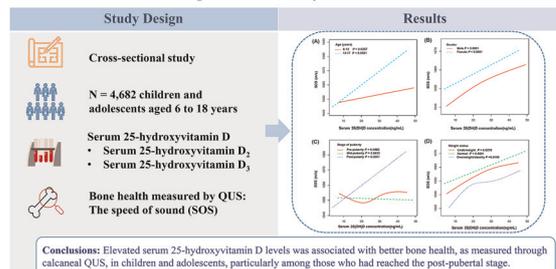


1379

### Association of serum 25-hydroxyvitamin D with bone health measured by calcaneal quantitative ultrasound: a large cross-sectional analysis in children and adolescents

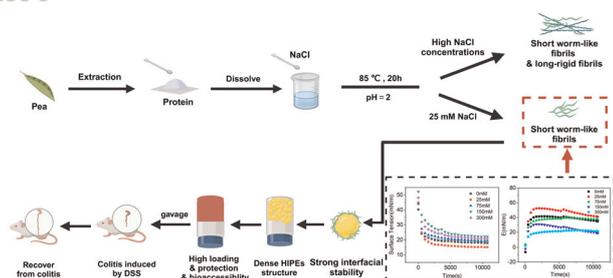
Ting Xiong, Yuanjue Wu, Yan Li, Wenjing Chen, Ziyang Zhang, Wenlong Lu, Min He, Liangkai Chen, Yuhan Tang, Ping Yao, Jingfan Xiong\* and Yanyan Li\*

Association of Serum 25-hydroxyvitamin D With Bone Health Measured By Calcaneal Quantitative Ultrasound: A Large Cross-sectional Analysis In Children And Adolescents



## PAPERS

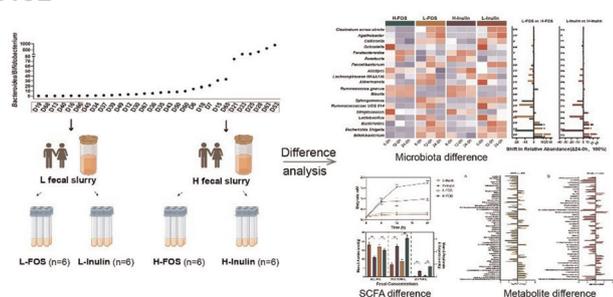
1390



### Structure–property relationship of pea protein fibrils in stabilization of HIPEs and the encapsulation, protection, controlled release and oral delivery of carotenoids for alleviating intestinal inflammation

Yanhua Liu, Xiaorong Zhang, Ran Zhao, Yingqun Nian and Bing Hu\*

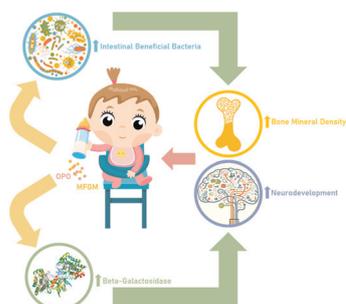
1402



### Dynamic response of different types of gut microbiota to fructooligosaccharides and inulin

Pingping Yin, Shanrong Yi, Ting Du, Chengcheng Zhang, Leilei Yu, Fengwei Tian, Jianxin Zhao, Wei Chen and Qixiao Zhai\*

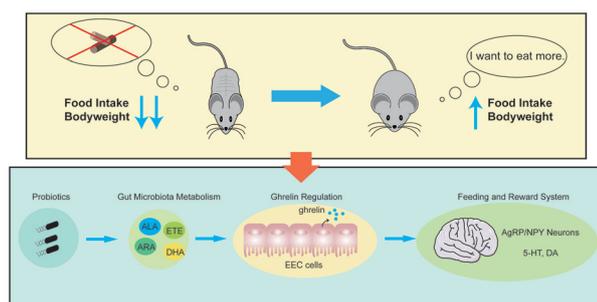
1417



### Comparative evaluation of enriched formula milk powder with OPO and MFGM vs. breastfeeding and regular formula milk powder in full-term infants: a comprehensive study on gut microbiota, neurodevelopment, and growth

Botian Chen, Qiong Jia, Zekun Chen, Yanxia You, Yanpin Liu, Junying Zhao, Lijun Chen,\* Defu Ma\* and Yan Xing\*

1431



### *Streptococcus salivarius* subsp. *thermophilus* CCFM1312 enhanced mice resilience to activity-based anorexia

Ran Zhu, Yuming Lan, Xin Qian, Jianxin Zhao, Gang Wang, Peijun Tian\* and Wei Chen

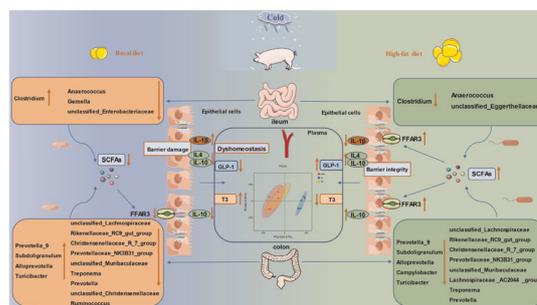


## PAPERS

1443

### Dietary-fat supplementation alleviates cold temperature-induced metabolic dysbiosis and barrier impairment by remodeling gut microbiota

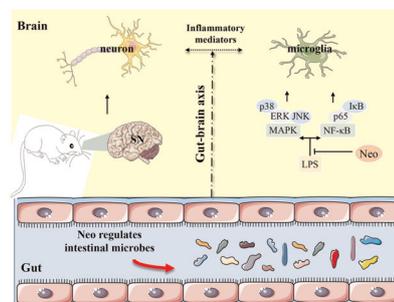
Wei He, Hongwei Ding, Ye Feng, Xinyu Liu, Xiuyu Fang, Feng Gao and Baoming Shi\*



1460

### Orally administered neohesperidin attenuates MPTP-induced neurodegeneration by inhibiting inflammatory responses and regulating intestinal flora in mice

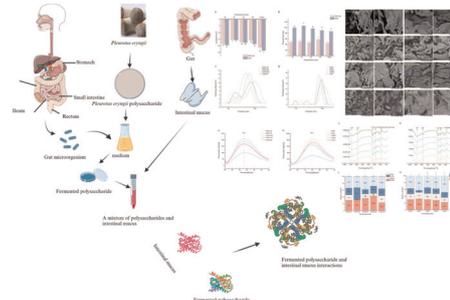
Dewei He, Xiyu Gao, Jingru Wen, Yiming Zhang, Shuo Yang, Xiaojia Sun, Mingchi Cui, Zhe Li, Shoupeng Fu, Juxiong Liu\* and Dianfeng Liu\*



1476

### Interactions between intestinal microbial fermentation products of *Pleurotus eryngii* polysaccharide with gut mucus

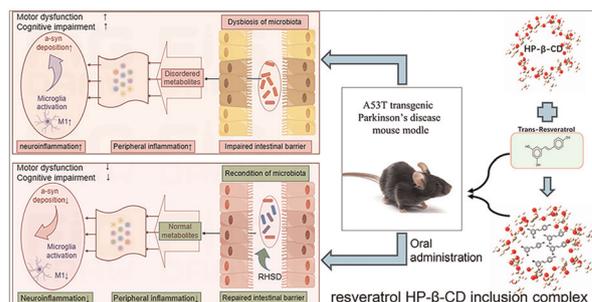
Gaoxing Ma, Sai Ma, Hengjun Du, Xinyi Li, Qi Tao, Qihui Hu and Hang Xiao\*



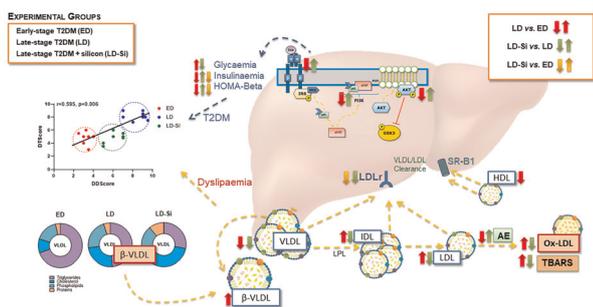
1489

### Integrated multi-omics profiling highlights the benefits of resveratrol hydroxypropyl-β-cyclodextrin inclusion complex for A53T transgenic mice through the microbiota–gut–brain axis

Xiaodong Sun, Shenglan Feng, Bingqing Qin, Junjie Ye, Lixia Xie, Jianjun Gui and Ming Sang\*



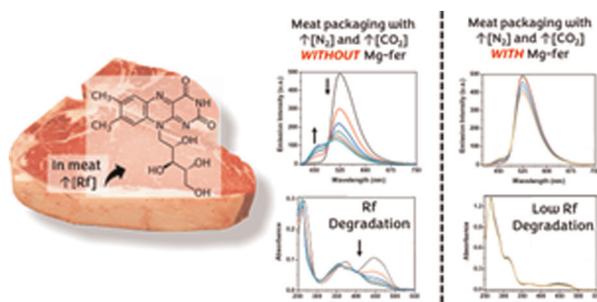
1513



### Silicon-enriched meat positively improves plasma lipidaemia and lipoproteinaemia, LDLr, and insulin capability and the signalling pathway induced by an atherogenic diet in late-stage type 2 diabetes mellitus rats

Marina Hernández-Martin, Adrián Macho-González, Alba Garcimartín,\* M<sup>a</sup> Elvira López-Oliva,\* Aránzazu Bocanegra, Rocío Redondo-Castillejo, Sara Bastida, Juana Benedí and Francisco J. Sánchez-Muniz

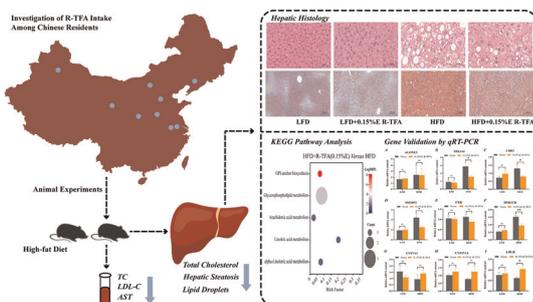
1527



### Antioxidant activity of an Mg(II) compound containing ferulic acid as a chelator: potential application for active packaging and riboflavin stabilisation

Rafael C. Marchi,\* Flavio V. C. Kock, Isabele A. Soares dos Campos, Hugo Cesar R. Jesus, Tiago Venâncio, Maria Fátima G. F. da Silva, João B. Fernandes, Manuela Rollini, Sara Limbo and Rose M. Carlos\*

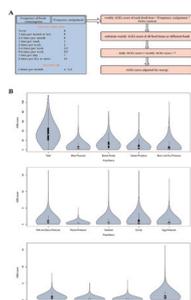
1539



### Low intake of ruminant *trans* fatty acids ameliorates the disordered lipid metabolism in C57BL/6J mice fed a high-fat diet

Ze-Qiang Zhou, Meng Wei, Chao-Li Tan, Ze-Yuan Deng and Jing Li\*

1553



### Association of total and different food-derived advanced glycation end-products with risks of all-cause and cause-specific mortality

Changyu Si, Fubin Liu, Yu Peng, Yating Qiao, Peng Wang, Xixuan Wang, Jianxiao Gong, Huijun Zhou, Ming Zhang\* and Fangfang Song\*

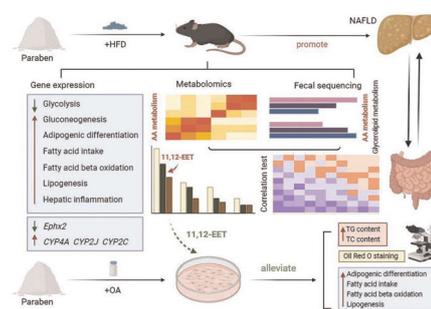


## PAPERS

1562

### Chronic exposure to parabens promotes non-alcoholic fatty liver disease in association with the changes of the gut microbiota and lipid metabolism

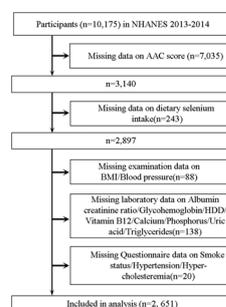
Yilin Ren, Xinyi Shi, Jing Mu, Shenyin Liu, Xin Qian, Wenlong Pei, Shanhong Ni, Zhengduo Zhang, Lei Li\* and Zhan Zhang\*



1575

### Association between dietary selenium intake and severe abdominal aortic calcification in the United States: a cross-sectional study

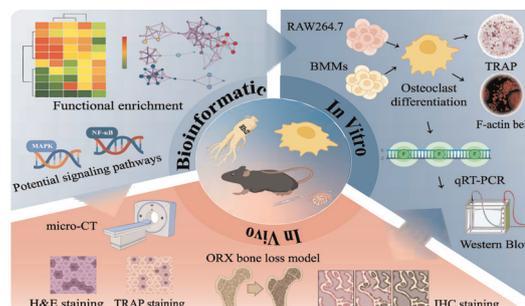
Weiwei Dong, Xiaobai Liu, Lu Ma, Zhiyong Yang and Chunyan Ma\*



1583

### Ginsenoside Rb2 exhibits therapeutic value for male osteoporosis in orchietomy mice by suppressing osteoclastogenesis and modulating NF- $\kappa$ B/MAPK signaling pathways

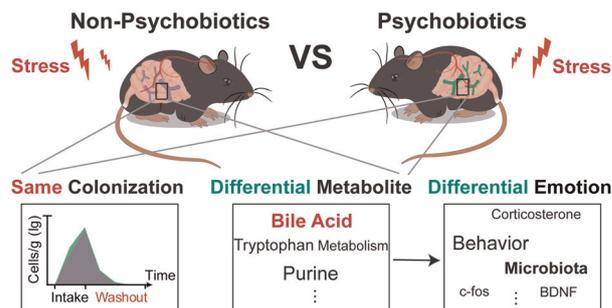
Yanhuai Ma, Jianliang Li, Jiale Mai, Huizhi Guo, Lingli Ding, Jinglan Li, Jiacong Xiao, Miao Li, Weihua Fang, Shuncong Zhang, Liangliang Xu\* and Haibin Wang\*



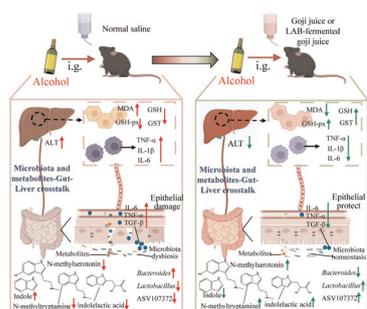
1598

### Determining the emotional regulation function of *Bifidobacterium breve*: the role of gut metabolite regulation over colonization capability

Xin Qian, Peijun Tian,\* Min Guo, Hongyu Yang, Hao Zhang, Gang Wang and Wei Chen



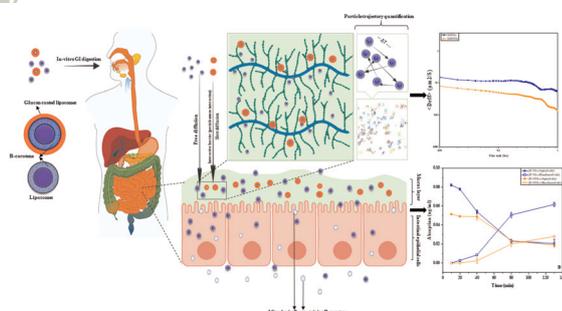
1612



### Lactic acid fermentation of goji berries (*Lycium barbarum*) prevents acute alcohol liver injury and modulates gut microbiota and metabolites in mice

Wenhui Duan, Lingxi Zhou, Yilin Ren, Fei Liu, Yuzheng Xue, Fang-Zhou Wang, Ran Lu, Xiao-Juan Zhang, Jin-Song Shi, Zheng-Hong Xu\* and Yan Geng\*

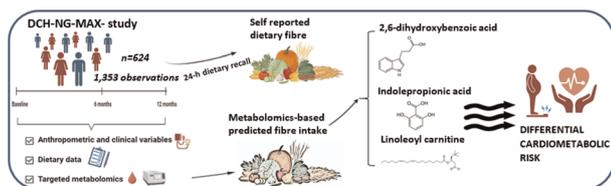
1627



### Effect of beta glucan coating on controlled release, bioaccessibility, and absorption of $\beta$ -carotene from loaded liposomes

Taskeen Niaz\* and Alan Mackie\*

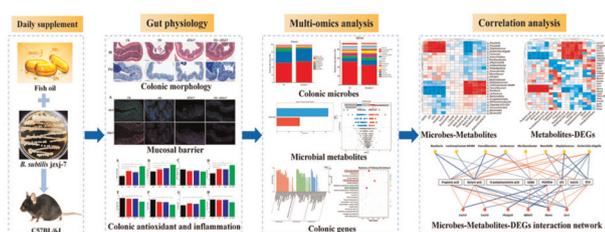
1643



### Metabolome biomarkers linking dietary fibre intake with cardiometabolic effects: results from the Danish Diet, Cancer and Health-Next Generations MAX study

A. Uni3n-Caballero, T. Mero3o, R. Zamora-Ros, A. L. Rostgaard-Hansen, A. Mi3narro, A. S3nchez-Pla, N. Estanyol-Torres, M. Mart3nez-Huelamo, M. Cubedo, R. Gonz3lez-Dom3nguez, A. Tj3nneland, G. Riccardi, R. Landberg, J. Halkj3er\* and C. Andr3s-Lacueva\*

1655



### Integrated microbiome, metabolome and transcriptome profiling reveals the beneficial effects of fish oil and *Bacillus subtilis* jzsj-7 on mouse gut ecosystem

Rundong Wang, Yijia Deng,\* Yuhao Zhang, Xuepeng Li, Ravi Gooneratne and Jianrong Li\*

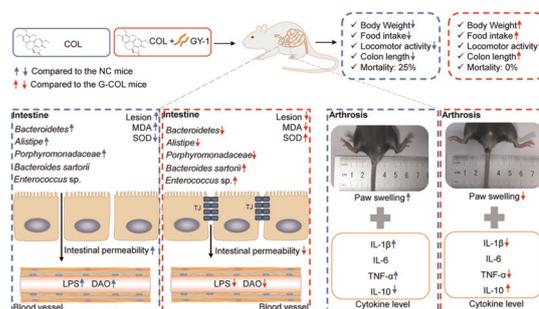


## PAPERS

1671

### Intestinal toxicity alleviation and efficacy potentiation through therapeutic administration of *Lactobacillus paracasei* GY-1 in the treatment of gout flares with colchicine

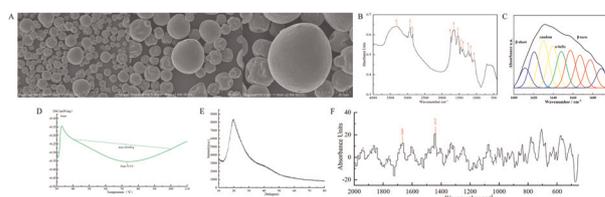
Jiaqi Zeng, Yan Li, Yizhi Zou, Ying Yang, Tingting Yang and Yizhuang Zhou\*



1689

### Modulation of cecal microbiota and fecal metabolism in mice by walnut protein

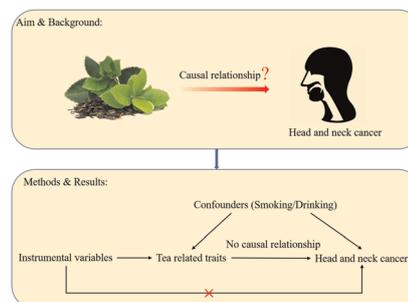
Huang Si, Wang Yan, Sheng Jun, Mu Hongyu, Zhang Xia, Wu Kuan and Zhao Cunchao\*



1705

### Causal association between tea consumption and head and neck cancer: a Mendelian randomization study

Qi-he Zhang, Mei-qi Wang, Huan-huan Wang, Yu-wei Huang, Chao Dong, Ying Xin\* and Xin Jiang\*



## CORRECTIONS

1717

### Correction: Mangiferin ameliorates collateral neuropathy in tBHP induced apoptotic nephropathy by inflammation mediated kidney to brain crosstalk

Sukanya Saha, Sushweta Mahalanobish, Sayanta Dutta and Parames C. Sil\*



## CORRECTIONS

1720

**Correction: Wheat peptides inhibit the activation of MAPK and NF- $\kappa$ B inflammatory pathways and maintain epithelial barrier integrity in NSAID-induced intestinal epithelial injury**

Zhiyuan Feng, Ying Wei, Zhuoran Zhang, Mingliang Li, Ruizeng Gu, Lu Lu, Wenying Liu\* and Huimin Qin\*

