



碧云天生物技术/Beyotime Biotechnology  
 订货热线: 400-1683301或800-8283301  
 订货e-mail: order@beyotime.com  
 技术咨询: info@beyotime.com  
 网址: http://www.beyotime.com

## AF488标记山羊抗小鼠IgG (H+L)

产品编号	产品名称	包装
A0428	AF488标记山羊抗小鼠IgG (H+L)	100μl

### 产品简介:

- 本AF488标记山羊抗小鼠IgG (H+L) (AF488-labeled Goat Anti-Mouse IgG (H+L))为进口分装，用于免疫荧光染色。
- AF染料是一系列由香豆素(Coumarin)、罗丹明(Rhodamine)、黄嘌呤(Xanthene)和花青(Cyanine)等传统染料经磺化(Sulfonation)和额外的化学修饰而合成的荧光染料，由Molecular Probes公司研发并注册了商标Alexa Fluor。相应的荧光探针例如Alexa Fluor 488常被简称为AF488，甚至直接被简称为488。AF系列染料具有以下优点：家族成员众多，激发和发射光谱跨越可见光到红外光，具有蓝色到红色各种荧光颜色，可选择性强；相较于合成AF的原始染料，磺化使染料带负电并具有亲水性，无需使用有机溶剂即可与靶标偶联，所得偶联物在储存期内不易沉淀；化学修饰提高了染料的性能，使染料具有更好的光稳定性和信号强度，用户有更多的时间采集、捕捉荧光信号，也更适合低丰度靶标的检测；具有优良的生物相容性和低毒性[1]；pH敏感性更低，在4-10的宽pH范围内保持高荧光强度，化学稳定性强。AF系列染料可广泛用作抗体和其它蛋白质的标记，是荧光显微镜、流式细胞术、荧光酶标仪等基于荧光的应用中的最常用的一类荧光染料。
- AF488是一种常用的非常明亮的绿色荧光探针。它比绝大部分常用的绿色荧光探针更加明亮，更加不容易淬灭，而且背景更低。AF488的荧光光谱与FITC和Cy2比较接近。AF488的吸收(激发)和发射峰参见下表。

Fluorophore	Absorption Peak (nm)	Emission Peak (nm)
AF488	495	519

- 本抗体为用纯化的小鼠IgG免疫山羊，然后用亲和纯化柱对获得的抗血清进行纯化，并经过人IgG、马IgG、牛IgG(bovine IgG)、兔IgG和猪IgG吸附纯化的优质二抗。对人IgG、马IgG、牛IgG(bovine IgG)、兔IgG和猪IgG几乎没有结合能力。特别适合于对于二抗种属特异性要求比较高的荧光染色实验。
- 本AF488标记山羊抗小鼠IgG (H+L)用于免疫荧光染色时的推荐稀释比例为1:500。实际实验操作过程中需根据抗原和抗体的具体情况适当调节荧光标记二抗的稀释比例，推荐的调节范围为1:200-1000。
- 本抗体如果用于常规的免疫染色，以每次检测需1毫升1:500稀释的荧光标记二抗计，至少可以检测50次。如果适当重复使用已经使用过的荧光标记二抗，至少可以多检测150-250次。

### 包装清单:

产品编号	产品名称	包装
A0428	AF488标记山羊抗小鼠IgG (H+L)	100μl
—	说明书	1份

### 保存条件:

-20°C避光保存，一年有效。

### 注意事项:

- 本产品仅限于专业人员的科学研究用，不得用于临床诊断或治疗，不得用于食品或药品，不得存放于普通住宅内。
- 为了您的安全和健康，请穿实验服并戴一次性手套操作。

### 使用说明:

1. 免疫荧光染色请参考相关实验步骤进行。起始稀释浓度按照产品简介中推荐的稀释比例进行稀释。
2. 如果希望重复使用稀释的荧光标记二抗，稀释的荧光标记二抗4°C保存。

### 参考文献:

1. Ostad SN, Babaei S, Bayat AA, Mahmoudian J. Monoclon Antib Immunodiagn Immunother. 2019. 38(1):25-29.

### 使用本产品的文献:

1. Weiliang Mo, Junchuan Zhang, Li Zhang, Zhenming Yang, Liang Yang, Nan Yao, Yong Xiao, Tianhong Li, Yaxing Li, Guangmei Zhang, Mingdi Bian, Xinglin Du, Zecheng Zuo . Arabidopsis cryptochrome 2 forms photobodies with TCP22 under blue light and regulates the circadian clock Nat Commun. 2022 May 12;13(1):2631.
2. Feng Zhu, Hong Zheng, Suilin Chen, Kun Zhang, Xin Qin, Jingru Zhang, Taiping Liu, Yongling Fan, Liting Wang, Xiaoxu Li, Jian Zhang, Wenye Xu . Malaria oocysts require circumsporozoite protein to evade mosquito immunity Nat Commun. 2022 Jun 9;13(1):3208.
3. Cao L, Chen J, Wang Y, Yang Y, Qing J, Rao Z, Chen X, Lou Z .

- Identification of serotonin 2A receptor as a novel HCV entry factor by a chemical biology strategy. *Protein Cell*. 2019 Mar 10(3):178-195.
4. Qidong Li, Hanhui Yao, Yichun Wang, Yang Wu, Rick F Thorne, Youming Zhu, Mian Wu, Lianxin Liu . circPRKAA1 activates a Ku80/Ku70/SREBP-1 axis driving de novo fatty acid synthesis in cancer cells *Cell Rep*. 2022 Nov 22;41(8):111707.
  5. Mingxing Liu, Qing Wang, Wenda Wu, Min Chen, Pengyun Zhang, Mengru Guo, Huixing Lin, Zhe Ma, Hong Zhou, Hongjie Fan . Glaesserella parasuis serotype 5 breaches the porcine respiratory epithelial barrier by inducing autophagy and blocking the cell membrane Claudin-1 replenishment *PLoS Pathog*. 2022 Oct 13;18(10):e1010912.
  6. Gong Z, Pan J, Shen Q, Li M, Peng Y . Mitochondrial dysfunction induces NLRP3 inflammasome activation during cerebral ischemia/reperfusion injury. *J NEUROINFLAMM*. 2018 Aug 28;15(1):242.
  7. Lin Che, Chuan-Li Yang, Yu Chen, Zi-Li Wu, Ze-Bang Du, Jia-Shen Wu, Cong-Ling Gan, Si-Ping Yan, Jing Huang, Ni-Jun Guo, Yu-Chun Lin, Zhong-Ning Lin . Mitochondrial redox-driven mitofusin 2 S-glutathionylation promotes neuronal necroptosis via disrupting ER-mitochondria crosstalk in cadmium-induced neurotoxicity *Chemosphere*. 2021 Jan;262:127878.
  8. Tong X, Zhang C, Wang D, Song R, Ma Y, Cao Y, Zhao H, Bian J, Gu J, Liu Z . Suppression of AMP-activated protein kinase reverses osteoprotegerin-induced inhibition of osteoclast differentiation by reducing autophagy. *CELL PROLIFERAT*. 2020 Jan 53(1):e12714.
  9. Xishuai Tong, Chuang Zhang, Dong Wang, Ruilong Song, Yonggang Ma, Ying Cao, Hongyan Zhao, Jianchun Bian, Jianhong Gu, Zongping Liu . Suppression of AMP-activated protein kinase reverses osteoprotegerin-induced inhibition of osteoclast differentiation by reducing autophagy *CELL PROLIFERAT*. 2020 Jan;53(1):e12714.
  10. Chenliang Zhou, Zhichang Zhang, Xiaoshi Zhu, Guowei Qian, Yan Zhou, Yong Sun, Wenxi Yu, Jiahui Wang, Haiyang Lu, Feng Lin, Zan Shen, Shuier Zheng . N6-Methyladenosine modification of the TRIM7 positively regulates tumorigenesis and chemoresistance in osteosarcoma through ubiquitination of BRMS1 *EBioMedicine*. 2020 Sep;59:102955.
  11. Wang HY, Li C, Liu WH, Deng FM, Ma Y, Guo LN, Kong H, Hu KA, Liu Q, Wu J, Sun J, Liu YL . Autophagy inhibition via Becn1 downregulation improves the mesenchymal stem cells antifibrotic potential in experimental liver fibrosis. *J Cell Physiol*. 2020 Mar 235(3):2722-2737.
  12. Lu M, Zhuang X, Tang K, Wu P, Guo X, Yin L, Cao H, Zou D . Intrinsic Surface Effects of Tantalum and Titanium on Integrin  $\alpha 5\beta 1$ / ERK1/2 Pathway-Mediated Osteogenic Differentiation in Rat Bone Mesenchymal Stromal Cells. *CELL PHYSIOL BIOCHEM*. 2018;51(2):589-609.
  13. Tu C, Li N, Zhu L, Zhou L, Su Y, Li P, Zhu X. . Cationic long-chain hyperbranched poly(ethylene glycol)s with low charge density for gene delivery. *POLYM CHEM-UK*. 2013;4:393-401.
  14. Li Jia, Dai Limeng, Tan Xiaoyin, Wang Junwen, Zhu Xintong, Xiong Gang, Bai Yun, Guo Hong . A Novel Splicing Mutation c.335-1 G > A in the Cardiac Transcription Factor NKX2-5 Leads to Familial Atrial Septal Defect Through miR-19 and PYK2 *Stem Cell Rev Rep*. 2022 Dec;18(8):2646-2661.
  15. Feng Wei, Sang Ba, Mei Jin, Ren Ci, Xuelian Wang, Fusheng E, Ziwen Long . RNF180 Inhibits Proliferation and Promotes Apoptosis of Colorectal Cancer Through Ubiquitination of WISP1 *Front Cell Dev Biol*. 2021 Jan 22;8:623455.
  16. Chen C, Wang X, Huang X, Yong H, Shen J, Tang Q, Zhu J, Ni J, Feng Z . . Nicotinamide N-methyltransferase: a potential biomarker for worse prognosis in gastric carcinoma. *Am J Cancer Res*. 2016 Feb 15;6(3):649-63.
  17. Yao B, Song W, Li Z, Hu T, Wang R, Wang Y, Huang S, Fu X . Irf6 directs glandular lineage differentiation of epidermal progenitors and promotes limited sweat gland regeneration in a mouse burn model. *Stem Cell Res Ther*. 2018 Jul 4;9(1):179.
  18. Shi L, Li B, Zhang B, Zhen C, Zhou J, Tang S . Mouse embryonic palatal mesenchymal cells maintain stemness through the PTEN-Akt-mTOR autophagic pathway. *Stem Cell Res Ther*. 2019 Jul 29 10(1):217.
  19. Guan X, Zhang M, Fu M, Luo S, Hu Q . Herpes Simplex Virus Type 2 Immediate Early Protein ICP27 Inhibits IFN- $\beta$  Production in Mucosal Epithelial Cells by Antagonizing IRF3 Activation. *Front Immunol*. 2019 Feb 26 10:290.
  20. Ye Yu, Dong-Ming Wu, Jing Li, Shi-Hua Deng, Teng Liu, Ting Zhang, Miao He, Yang-Yang Zhao, Ying Xu . Bixin Attenuates Experimental Autoimmune Encephalomyelitis by Suppressing TXNIP/NLRP3 Inflammasome Activity and Activating NRF2 Signaling *Front Immunol*. 2020 Dec 9;11:593368.
  21. Chenchen Liu, Wei Zhao, Jia Su, Xiaochun Chen, Feifan Zhao, Jindai Fan, Xiaowen Li, Xiaodi Liu, Linke Zou, Mengru Zhang, Zilin Zhang, Liangliang Zhang, Shuangqi Fan, Yuwan Li, Mingqiu Zhao, Jinding Chen, Lin Yi . HSP90AA1 interacts with CSFV NS5A protein and regulates CSFV replication via the JAK/STAT and NF- $\kappa$ B signaling pathway *Front Immunol*. 2022 Nov 2:13:1031868.
  22. 刘军楼, 汪悦, 徐力, 杨继兵, 孙志岭, 邓海山, 徐建亚. . 冬凌草甲素对人胰腺癌细胞增殖的抑制作用及其机制. *世界华人消化杂志*. 2010 年 11 月;18(32):3407-3412.
  23. Yang HB, Yang X, Cao J, Li S, Liu YN, Suo ZW, Cui HB, Guo Z, Hu XD. . cAMP-dependent protein kinase activated Fyn in spinal dorsal horn to regulate NMDA receptorfunction during inflammatory pain. *J Neurochem*. 2011 Jan;116(1):93-104. (IF 4.066)
  24. Peng H, Wu Y, Zhang Y. . Efficient delivery of DNA and morpholinos into mouse preimplantation embryos by electroporation. *PLoS One*. 2012;7(8):e43748.
  25. Wang X, Bai J, Zhang L, Wang X, Li Y, Jiang P. . Poly(A)-binding protein interacts with the nucleocapsid protein of porcine reproductive and respiratory syndromevirus and participates in viral replication. *ANTIVIR RES*. 2012 Dec;96(3):315-23.
  26. Wang HQ, Meng S, Li ZR, Peng ZG, Han YX, Guo SS, Cui XL, Li YH, Jiang JD. . The antiviral effect of 7-hydroxyisoflavone against Enterovirus 71 in vitro. *J Asian Nat Prod Res*. 2013 Apr;15(4):382-9.
  27. Yang Z, Liu J, Liu H, Qiu M, Liu Q, Zheng L, Pang M, Quan F, Zhang Y. . Isolation and Characterization of SSEA3+ Stem Cells Derived from Goat Skin Fibroblasts. *Cell Reprogram*. 2013 Jun;15(3):195-205.
  28. Cai QQ, Zheng LF, Fan RF, Lian H, Zhou L, Song HY, Tang YY, Feng XY, Guo ZK, Wang ZY, Zhu JX. . Distribution of dopamine receptors D1- and D2-immunoreactive neurons in the dorsal motor nucleus of vagus in rats. *AUTON NEUROSCI-BASIC*. 2013 Jun;176(1-2):48-53.
  29. Li D, Liu Y, Yang Y, Chen JH, Yang J, Zou LY, Tian ZQ, Lv J, Xia PY. . Looped Host Defense Peptide CLP-19 Binds to Microtubules and Inhibits Surface Expression of TLR4 on MouseMacrophages. *J Immunol*. 2013 Jun 15;190(12):6083-92.
  30. Li X, Li Z, Li N, Qi J, Fan K, Yin P, Zhao C, Liu Y, Yao W, Cai X, Wang L, Zha X. . MAGI2 enhances the sensitivity of BEL-7404 human hepatocellular carcinoma cells to staurosporine-inducedapoptosis by increasing PTEN stability. *Int J Mol Med*. 2013 Aug;32(2):439-47.
  31. Jin Y, Sun C, Feng L, Li P, Xiao L, Ren Y, Wang D, Li C, Chen L. . Regulation of SIV antigen-specific CD4+ T cellular immunity via autophagosome-mediated MHC II molecule-targeting antigen

- presentation in mice. *PLoS One*. 2014 Mar 26;9(3):e93143.
32. Mao J, Liu S. . Regulation of RPE barrier function by all-trans retinoic acid in myopia. *Neurosci Lett*. 2014 May 7;568:17-22.
  33. Gao C, Ding Y, Zhong L, Jiang L, Geng C, Yao X, Cao J. . Tacrine induces apoptosis through lysosome- and mitochondria-dependent pathway in HepG2 cells. *Toxicol In Vitro*. 2014 Jun;28(4):667-74.
  34. Wen J, Pei H, Wang X, Xie C, Li S, Huang L, Qiu N, Wang W, Cheng X, Chen L. . 3Gambogic acid exhibits anti-psoriatic efficacy through inhibition of angiogenesis and inflammation. *J Dermatol Sci*. 2014 Jun;74(3):242-50.
  35. Miao SH, Sun HB, Ye Y, Yang JJ, Shi YW, Lu M, Hu G, Zhou JW. . Astrocytic JWA Expression is Essential to Dopaminergic Neuron Survival in the Pathogenesis of Parkinson's Disease. *CNS Neurosci Ther*. 2014 Aug;20(8):754-62.
  36. Yang X, Ndawula C Jr, Zhou H, Gong X, Jin J. . JF-305, a pancreatic cancer cell line is highly sensitive to the PARP inhibitor olaparib. *Oncol Lett*. 2015 Feb;9(2):757-761.
  37. Liu FL, Kuang YQ, Mu D, Zheng HY, Zhu JW, Zheng YT. . The effect of exon 7 deletion during the evolution of TRIMCyp fusion proteins on viral restriction, cytoplasmic body formation and multimerization. *PLoS One*. 2015 Mar 30;10(3):e0121666.
  38. Chen H, Zhang L, Guo Z, Wang Y, He R, Qin Y, Quan F, Zhang Y. . Improving the development of early bovine somatic-cell nuclear transfer embryos by treating adult donor cells with vitamin C. *Mol Reprod Dev*. 2015 Nov;82(11):867-79.
  39. Wang B, Wang D, Zhu Z, Wang W, Zhang X, Tang F, Zhou Y, Wang H, Liu M, Yao X, Yan X. . The role of extracellular-5'-nucleotidase/CD73 in glioma peritumoural brain edema. *Neurol Sci*. 2016 Apr;37(4):603-11.
  40. Liu YH, Jin JL, Wang YZ, Tan Y, Zhou YY, Peng T, Li F, Liang WD, Chartrand P, Jiang YY, Shen ZF. . Protrusion-localized STAT3 mRNA promotes metastasis of highly metastatic hepatocellular carcinoma cells in vitro. *Acta Pharmacol Sin*. 2016 Jun;37(6):805-13.
  41. Wang Y, Tu L, Li Y, Chen D, Wang S. . Notoginsenoside R1 Protects against Neonatal Cerebral Hypoxic-Ischemic Injury through Estrogen Receptor-Dependent Activation of Endoplasmic Reticulum Stress Pathways. *J Pharmacol Exp Ther*. 2016 Jun;357(3):591-605.
  42. Chen H, Zhang L, Deng T, Zou P, Wang Y, Quan F, Zhang Y. . Effects of oocyte vitrification on epigenetic status in early bovine embryos. *Theriogenology*. 2016 Aug;86(3):868-78.
  43. Li H, Chen L, Zhang M, Zhang B. . Foxa1 gene and protein in developing rat eccrine sweat glands. *J Mol Histol*. 2016 Oct 27. [Epub ahead of print]
  44. Li H, Zhang M, Chen L, Zhang B, Zhang C. . Expression of S100A2 and S100P in human eccrine sweat glands and their application in differentiating secretory coil-like from duct-like structures in the 3D reconstituted eccrine sweat spheroids. *J Mol Histol*. 2017 Jun;48(3):219-223.
  45. Zhou B, Jiang Z, Li X, Zhang X. . Kaempferol's Protective Effect on Ethanol-Induced Mouse Primary Hepatocytes Injury Involved in the Synchronous Inhibition of SP1, Hsp70 and CYP2E1. *AM J CHINESE MED*. 2018;46(5):1093-1110.
  46. Gong Z, Pan J, Li X, Wang H, He L, Peng Y. . Hydroxysafflor Yellow A Reprograms TLR9 Signalling Pathway in Ischaemic Cortex after Cerebral Ischaemia and Reperfusion. *CNS NEUROL DISORD-DR*. 2018;17(5):370-382.
  47. Cheng J, Zhang C, Tao J, Li B, Shi Y, Liu H. . Effects of the S42 residue of the H1N1 swine influenza virus NS1 protein on interferon responses and virus replication. *Virology*. 2018 Mar 27;15(1):57.
  48. He F, Yang Z, Dong X, Fang Z, Liu Q, Hu X, Yi S, Li L. . The role of HCN channels in peristaltic dysfunction in human ureteral tuberculosis. *Int Urol Nephrol*. 2018 Apr;50(4):639-645.
  49. Zhan Y, He Z, Liu X, Miao N, Lin F, Xu W, Mu S, Mu H, Yuan M, Cao X, Jin H, Liu Z, Li Y, Zhang B. . Aspirin-induced attenuation of adipogenic differentiation of bone marrow mesenchymal stem cells is accompanied by the disturbed epigenetic modification. *INT J BIOCHEM CELL B*. 2018 May;98:29-42.
  50. Han C, Deng R, Mao T, Luo Y, Wei B, Meng P, Zhao L, Zhang Q, Quan F, Liu J, Zhang Y. . Overexpression of Tet3 in donor cells enhances goat somatic cell nuclear transfer efficiency. *FEBS J*. 2018 Jul;285(14):2708-2723.
  51. Li H, Chen L, Zhang M, Xie S, Cheng L. . Expression and localization of Forkhead transcription factor A1 in the three-dimensional reconstructed eccrine sweat glands. *Acta Histochem*. 2018 Aug;120(6):520-524. (IF 2.107)
  52. Wang G, Zhou H, Gu Z, Gao Q, Shen G. . Oct4 promotes cancer cell proliferation and migration and leads to poor prognosis associated with the survivin/STAT3 pathway in hepatocellular carcinoma. *Oncol Rep*. 2018 Aug;40(2):979-987.
  53. Gao Y, Sun N, Wang L, Wu Y, Ma L, Hong J, Ren J, Zhu B, Yu L, Yan M. . Bioinformatics Analysis Identifies p53 as a Candidate Prognostic Biomarker for Neuropathic Pain. *Front Genet*. 2018 Aug 31;9:320.
  54. Yang W, Gong X, Wang X, Huang C. . A mediator of phosphorylated Smad2/3, evodiamine, in the reversion of TAF-induced EMT in normal colonic epithelial cells. *INVEST NEW DRUG*. 2018 Nov 29.
  55. Zhang M, Li H, Xie S, Chen L. . Time course of differentiation of different cell types in 3D-reconstructed eccrine sweat glands. *J Mol Histol*. 2018 Dec;49(6):567-575.
  56. Yang YL, Ran XR, Li Y, Zhou L, Zheng LF, Han Y, Cai QQ, Wang ZY, Zhu JX. . Expression of Dopamine Receptors in the Lateral Hypothalamic Nucleus and Their Potential Regulation of Gastric Motility in Rats With Lesions of Bilateral Substantia Nigra. *FRONT NEUROSCI-SWITZ*. 2019 Mar 14 13:195.
  57. Siyuan Chen, Li Yang, Hui Dong, Hong Guo. . Human Telomerase Reverse Transcriptase Recruits the  $\beta$ -catenin/TCF-4 Complex to Transactivate Chemokine (C-C Motif) Ligand 2 Expression in Colorectal Cancer. *Biomed Pharmacother*. 2019 Apr;112:108700.
  58. Xie T, Xu Q, Wan H, Xing S, Shang C, Gao Y, He Z. . Lipopolysaccharide promotes lung fibroblast proliferation through autophagy inhibition via activation of the PI3K-Akt-mTOR pathway. *Lab Invest*. 2019 May 99(5):625-633.
  59. Liu H, Wu Y, He F, Cheng Z, Zhao Z, Xiang C, Feng X, Bai X, Takeda S, Wu X, Qing Y. . Brcal is involved in tolerance to adefovir dipivoxil-induced DNA damage. *Int J Mol Med*. 2019 Jun 43(6):2491-2498.
  60. Chen S, Cai F, Wang J, Yang Z, Gu C, Wang G, Mao G, Yan J. . Salidroside protects SH-SY5Y from pathogenic  $\alpha$ -synuclein by promoting cell autophagy via mediation of mTOR/p70S6K signaling. *Mol Med Rep*. 2019 Jul 20(1):529-538.
  61. Cao L, Chen L, Li H, Wei Z, Xie S, Zhang M, Lin Y, Huang H. . Differential antigen expression between human eccrine sweat glands and hair follicles/pilosebaceous units. *J Mol Histol*. 2019 Aug 50(4):335-342.
  62. Liu B, Liu ZZ, Zhou ML, Lin JW, Chen XM, Li Z, Gao WB, Yu ZD, Liu T. . Development of c-MET-specific chimeric antigen receptor-engineered natural killer cells with cytotoxic effects on human liver cancer HepG2 cells. *Mol Med Rep*. 2019 Sep 20(3):2823-2831.
  63. Fu L, Chang H, Wang Z, Xie X, Chen H, Lei Z, Zhang Y, Quan F. . The effects of TETs on DNA methylation and hydroxymethylation of mouse oocytes after vitrification and warming. *Cryobiology*. 2019 Oct 90:41-46.

64. Xu S, Ni H, Chen H, Dai Q . The interaction between STAT3 and nAChR $\alpha$ 1 interferes with nicotine-induced atherosclerosis via Akt/mTOR signaling cascade. *AGING-US*. 2019 Oct 14 11(19):8120-8138.
65. Zhu E, Chen W, Qin Y, Ma S, Fan S, Wu K, Li W, Fan J, Yi L, Ding H, Chen J, Zhao M . Classical Swine Fever Virus Infection Induces Endoplasmic Reticulum Stress-Mediated Autophagy to Sustain Viral Replication in vivo and in vitro. *Front Microbiol*. 2019 Nov 12 10:2545.
66. Xinxin Yang, Jichun Tan, Xiaoyan Xu, Haibo Yang, Fengdi Wu, Bin Xu, Wei Liu, Pengcheng Shi, Zhaofa Xu, Yu Deng . Prepubertal overexposure to manganese induce precocious puberty through GABA A receptor/nitric oxide pathway in immature female rats *ECOTOX ENVIRON SAFE*. 2020 Jan 30;188:109898.
67. Shuangqi Fan, Keke Wu, Chaowei Luo, Xin Li, Mengpo Zhao, Dan Song, Shengming Ma, Erpeng Zhu, Yuming Chen, Hongxing Ding, Lin Yi, Jun Li, Mingqiu Zhao, Jinding Chen . Dual NDP52 Function in Persistent CSFV Infection *Front Microbiol*. 2020 Jan 8;10:2962.
68. Liu Y, Wu C, Hou Z, Fu X, Yuan L, Sun S, Zhang H, Yang D, Yao X, Yang J . Pseudoginsenoside-F11 Accelerates Microglial Phagocytosis of Myelin Debris and Attenuates Cerebral Ischemic Injury Through Complement Receptor 3. *Neuroscience*. 2020 Feb 1 426:33-49.
69. Miao X, Xiang Y, Mao W, Chen Y, Li Q, Fan B . TRIM27 promotes IL-6-induced proliferation and inflammation factor production by activating STAT3 signaling in HaCaT cells. *AM J PHYSIOL-CELL PH*. 2020 Feb 1 318(2):C272-C281.
70. Fusheng Si, Xiaoxia Hu, Chenyang Wang, Bingqing Chen, Ruiyang Wang, Shijuan Dong, Ruisong Yu, Zhen Li . Porcine Epidemic Diarrhea Virus (PEDV) ORF3 Enhances Viral Proliferation by Inhibiting Apoptosis of Infected Cells *VIRUSES-BASEL*. 2020 Feb 14;12(2):214.
71. Jinpeng Lv, Ying Fu, Yan Cao, Songzhou Jiang, Ying Yang, Guoqiang Song, Changjun Yun, Rongyin Gao . Isoliquiritigenin inhibits melanogenesis, melanocyte dendricity and melanosome transport by regulating ERK-mediated MITF degradation *Exp Dermatol*. 2020 Feb;29(2):149-157.
72. Zhen-Yu She, Yue-Ling Li, Yang Lin, Ming-Hui Lu, Ya-Lan Wei, Kai-Wei Yu, Ning Zhong, Yu Xiao . Kinesin-6 family motor KIF20A regulates central spindle assembly and acrosome biogenesis in mouse spermatogenesis *BBA-MOL CELL RES*. 2020 Apr;1867(4):118636.
73. Jialing Peng, Hongxuan Wang, Zhe Gong, Xiangpen Li, Lei He, Qingyu Shen, Jingrui Pan, Ying Peng . Idebenone attenuates cerebral inflammatory injury in ischemia and reperfusion via dampening NLRP3 inflammasome activity *Mol Immunol*. 2020 Jul;123:74-87.
74. Cheng Gao, Haochen Wang, Tao Wang, Chengliang Luo, Zufeng Wang, Mingyang Zhang, Xiping Chen, Luyang Tao . Platelet regulates neuroinflammation and restores blood-brain barrier integrity in a mouse model of traumatic brain injury *J Neurochem*. 2020 Jul;154(2):190-204.
75. Xiao Chen, Xuliang Chen, Xiangxiang Shi, Zhan Gao, Zhigang Guo . Curcumin attenuates endothelial cell fibrosis through inhibiting endothelial-interstitial transformation *CLIN EXP PHARMACOL P* . 2020 Jul;47(7):1182-1192.
76. Denglu Zhang, Xiaohang Du, Xufeng Zhang, Kailin Li, Feng Kong, Guanghui Cheng, Shengtian Zhao . In vitro induction and in vivo engraftment of kidney organoids derived from human pluripotent stem cells *Exp Ther Med*. 2020 Aug;20(2):1307-1314.
77. Yi Du, Yi-Tong Yang, Gang Tang, Jie-Shuang Jia, Nan Zhu, Wei-Jie Yuan . Butyrate alleviates diabetic kidney disease by mediating the miR-7a-5p/P311/TGF- $\beta$ 1 pathway *FASEB J*. 2020 Aug;34(8):10462-10475.
78. Jinpeng Lv, Xiaohong An, Songzhou Jiang, Ying Yang, Guoqiang Song, Rongyin Gao . Protoporphyrin IX Stimulates Melanogenesis, Melanocyte Dendricity, and Melanosome Transport Through the cGMP/PKG Pathway *Front Pharmacol*. 2020 Sep 11;11:569368.
79. Chao Huang, Ke Ming Xiang, Bing Jun Liang, Wei Xuan Huang, Fan Jun Zhang, Yu Wan Shao, Xiu Lian Wang, Hao Sheng Liu, Wei Zeng Shen . Combination of Evodiamine with Berberine Reveals a Regulatory Effect on the Phenotypic Transition of Colon Epithelial Cells Induced by CCD-18Co *J TRADIT CHIN MED*. 2020 Sep 30;35(3):195-206.
80. Wenhui Li, Zilin Zhang, Liangliang Zhang, Hong Li, Shuangqi Fan, Erpeng Zhu, Jindai Fan, Zhaoyao Li, Wenxian Chen, Lin Yi, Hongxing Ding, Jinding Chen, Mingqiu Zhao . Antiviral Role of Serine Incorporator 5 (SERINC5) Proteins in Classical Swine Fever Virus Infection *Front Microbiol*. 2020 Sep 4;11:580233.
81. Kun-Lin Chen, Yue Wang, Zhi-Ping Lin, Hui-Xia Li . The protective effect of rosmarinic acid on myotube formation during myoblast differentiation under heat stress *IN VITRO CELL DEV-AN*. 2020 Sep;56(8):635-641.
82. Pei Zhang, Yimin Wu, Ruifeng Li, Huicheng Lv, Baolong Yu . Tripartite Motif Containing 52 Positively Regulates NF- $\kappa$ B Signaling by Promoting I $\kappa$ B $\alpha$  Ubiquitination in Lipopolysaccharide-Treated Microglial Cell Activation *MED SCI MONITOR*. 2020 Oct 30;26:e925356.
83. Xue Zhou, Jie Liang, Jiang Wang, Zhaoyang Fei, Guangcheng Qin, Dunke Zhang, Jiying Zhou, Lixue Chen . Up-regulation of astrocyte excitatory amino acid transporter 2 alleviates central sensitization in a rat model of chronic migraine *J Neurochem*. 2020 Nov;155(4):370-389.
84. Li Deng, Taiyuan Li, Yuanyuan Liao, Shuang Liu, Zhen Xie, Zhixiang Huang, Hua Dai, Jianfeng Li, Xiong Lei . Peritumoral activated hepatic stellate cells are associated with hepatic recurrence for resectable colorectal adenocarcinoma liver metastasis following resection *Oncol Lett*. 2020 Dec;20(6):287.
85. Zi-Xing Xu, Li-Qun Zhang, Yi-Nan Zhou, Xue-Min Chen, Wei-Hong Xu . Histological and functional outcomes in a rat model of hemisectioned spinal cord with sustained VEGF/NT-3 release from tissue-engineered grafts *ARTIF CELL NANOMED B*. 2020 Dec;48(1):362-376.
86. Yi R Hu, San L Xing, Chuan Chen, Ding Z Shen, Jiu L Chen . Codonopsis pilosula Polysaccharides Alleviate A $\beta$  1-40-Induced PC12 Cells Energy Dysmetabolism via CD38/NAD<sup>+</sup> Signaling Pathway *Curr Alzheimer Res*. 2021;18(3):208-221.
87. Hóngyi Zhào, Ru Wang, Yan Zhang, Yu Liu, Yonghua Huang . Neuroprotective effects of troxerutin and cerebroprotein hydrolysate injection on the neurovascular unit in a rat model of Middle cerebral artery occlusion *Int J Neurosci*. 2021 Mar;131(3):264-278.
88. Hongqing Chen, Fei Fei, Xinda Li, Zhenguo Nie, Dezhi Zhou, Libiao Liu, Jing Zhang, Haitao Zhang, Zhou Fei, Tao Xu . A structure-supporting, self-healing, and high permeating hydrogel bioink for establishment of diverse homogeneous tissue-like constructs *Bioact Mater*. 2021 Mar 23;6(10):3580-3595.
89. Jing-Wei Xing, Man-Man Chen, Xin-Yun Tian, Dan-Qing Pan, Xiu-Hua Peng, Peng-Fei Gao . 919 syrup inhibits ROS-mediated leptin-induced anorexia by activating PPAR $\gamma$  and improves gut flora abnormalities *Biomed Pharmacother*. 2021 Jun;138:111455.
90. Jing Qian, Jianyong Zhong, Shaojun Liu, Minhua Yan, Ping Cheng, Chuanming Hao, Yong Gu, Lingyun Lai .  $\alpha$ -Klotho, Plasma Asymmetric Dimethylarginine, and Kidney Disease Progression *Kidney Med*. 2021 Jul 29;3(6):984-991.e1.
91. He-Qin Zhan, Rong Qin, Yan-Li Li, Meng-Meng Liu, Lin Gan . TFEB promotes BCL-2 expression by upregulating its promoter activity in the t(6;11) translocation renal cell carcinomas *Am J Transl Res*. 2021 Aug 15;13(8):8804-8818.
92. Yunhui Zhang, Yinru Tang, Yuping Luo, Li Luo, Feihai Shen, Zhiying

- Huang . Triptolide impairs glycolysis by suppressing GATA4/Sp1/PFKP signaling axis in mouse Sertoli cells *Toxicol Appl Pharmacol*. 2021 Aug 15;425:115606.
93. Y Lan, W Zeng, X Dong, H Lu . Opsin 5 is a key regulator of ultraviolet radiation-induced melanogenesis in human epidermal melanocytes *Br J Dermatol*. 2021 Aug;185(2):391-404.
94. Yu Zhou, Wei-Jiang Zhao, Wei Quan, Chen-Meng Qiao, Chun Cui, Hui Hong, Yun Shi, Gu-Yu Niu, Li-Ping Zhao, Yan-Qin Shen . Dynamic changes of activated AHR in microglia and astrocytes in the substantia nigra-striatum system in an MPTP-induced Parkinson's disease mouse model *Brain Res Bull*. 2021 Nov;176:174-183.
95. Dabao Yao, Shuo Zhang, Zhengwei Hu, Haiyang Luo, Chengyuan Mao, Yu Fan, Mibo Tang, Fen Liu, Si Shen, Liyuan Fan, Mengjie Li, Jingjing Shi, Jiadi Li, Dongrui Ma, Yuming Xu, Changhe Shi . CHIP ameliorates cerebral ischemia-reperfusion injury by attenuating necroptosis and inflammation *Aging (Albany NY)*. 2021 Dec 14;13(23):25564-25577.
96. Yonglan Ruan, Jinying Ling, Fan Ye, Nuo Cheng, Fei Wu, Zongxiang Tang, Xiaolan Cheng, Hongquan Liu . Paeoniflorin alleviates CFA-induced inflammatory pain by inhibiting TRPV1 and succinate/SUCNR1-HIF-1 $\alpha$ /NLRP3 pathway *Int Immunopharmacol*. 2021 Dec;101(Pt B):108364.
97. Manxiu Cao, Junhong Zhao, Lijie Du, Zixiu Chen, Lei Zhang, Xiang Liu, Jiaqi Cheng, Yongjing Yan, Cuiping Zhang, Haihong Li . The combination of hair follicle-specific marker LHX2 and co-expressed marker can distinguish between sweat gland placodes and hair placodes in rat *J Mol Histol*. 2021 Dec;52(6):1225-1232.
98. Yinxia Li, Xue Bai, Min Gao, Haikun Chen, Xiaoyao Ma, Yihan Zhang, Huhu Bai, Yanni Liu, Xiaodong Hu, Zhanwei Suo . AKAP150 and its Palmitoylation Contributed to Pain Hypersensitivity Via Facilitating Synaptic Incorporation of GluA1-Containing AMPA Receptor in Spinal Dorsal Horn *Mol Neurobiol*. 2021 Dec;58(12):6505-6519.
99. He-Ao Zhang, Chun-Xu Yuan, Ke-Fu Liu, Qi-Fan Yang, Juan Zhao, Hui Li, Qing-Hu Yang, Da Song, Zhen-Zhen Quan, Hong Qing . Neural stem cell transplantation alleviates functional cognitive deficits in a mouse model of tauopathy *Neural Regen Res*. 2022 Jan;17(1):152-162.
100. Song Gao, Zheng Wang, Jukui Ma, Jingyi Wang, Xupeng Xing, Chenglong Shen, Zhihan Niu, Heqiang Li, Shaowei Zhang, Kaijuan Zhang, Jing Gao, Yong Zhang, Yongsheng Wang . Effect of ACY-1215 on cytoskeletal remodeling and histone acetylation in bovine somatic cell nuclear transfer embryos *Theriogenology*. 2022 Apr 15:183:98-107.
101. Qingwen Yuan, Renjun Peng, Huijie Yu, Sinian Wang, Zhongmin Chen, Suhe Dong, Wei Li, Bo Cheng, Qisheng Jiang, Yuwen Cong, Fengsheng Li, Changzheng Li . Disulfiram Protects Against Radiation-Induced Intestinal Injury in Mice *Front Pharmacol*. 2022 Apr 19:13:852669.
102. Jia-Hui Sun, Ming Huang, Zhou Fang, Tian-Xiao Li, Ting-Ting Wu, Yi Chen, Da-Ping Quan, Ying-Ying Xu, Yu-Ming Wang, Yi Yang, Jian-Long Zou . Nerve bundle formation during the promotion of peripheral nerve regeneration: collagen VI-neural cell adhesion molecule 1 interaction *Neural Regen Res*. 2022 May;17(5):1023-1033.
103. Jiannan Du, Yuan Li, Yuting Su, Wenqian Zhi, Jiale Zhang, Cheng Zhang, Juan Wang, Wensheng Deng, Shasha Zhao . LncRNA Pnky Positively Regulates Neural Stem Cell Migration by Modulating mRNA Splicing and Export of Target Genes *Cell Mol Neurobiol*. 2022 Jun 24.
104. Xing-Hua Xiao, Fang-Mei Luo, E-Li Wang, Min-Yi Fu, Tao Li, Yue-Ping Jiang, Shao Liu, Jun Peng, Bin Liu . Magnolol alleviates hypoxia-induced pulmonary vascular remodeling through inhibition of phenotypic transformation in pulmonary arterial smooth muscle cells *Biomed Pharmacother*. 2022 Jun:150:113060.
105. Chenxi Zhao, Tiangang Zhou, Xiaoqing Zhao, Yilin Pang, Wenxiang Li, Baoyou Fan, Ming Li, Xinjie Liu, Lei Ma, Jiawei Zhang, Chao Sun, Wenyuan Shen, Xiaohong Kong, Xue Yao, Shiqing Feng . Delayed administration of nafamostat mesylate inhibits thrombin-mediated blood-spinal cord barrier breakdown during acute spinal cord injury in rats *J Neuroinflammation*. 2022 Jul 16;19(1):189.
106. Sitian Xie, Liyun Chen, Mingjun Zhang, Cuiping Zhang, Haihong Li . Self-assembled complete hair follicle organoids by coculture of neonatal mouse epidermal cells and dermal cells in Matrigel *Ann Transl Med*. 2022 Jul;10(14):767.
107. Shi Mo, Wei Tang, Jun Xie, Sisi Chen, Luo Ren, Na Zang, Xiaohong Xie, Yu Deng, Leiqiong Gao, Enmei Liu . Correction for Mo et al., "Respiratory Syncytial Virus Activates Rab5a to Suppress IRF1-Dependent Lambda Interferon Production, Subverting the Antiviral Defense of Airway Epithelial Cells" *J Virol*. 2022 Sep 28;96(18):e0105422.
108. Yanjie Guo, Ruofei Li, Xiaoqian Dang . S100A10 regulates tumor necrosis factor alpha-induced apoptosis in chondrocytes via the reactive oxygen species/nuclear factor-kappa B pathway *Biotechnol Appl Biochem*. 2022 Dec;69(6):2284-2295.
109. Yuheng Qin, Xiaoyu Yuan, Zhenyan Cui, Wenhan Chen, Sinan Xu, Kelie Chen, Fang Wang, Fang Zheng, Heng Ni, Han-Ming Shen, Yihua Wu, Dajing Xia . Low dose PFDA induces DNA damage and DNA repair inhibition by promoting nuclear cGAS accumulation in ovarian epithelial cells *Ecotoxicol Environ Saf*. 2023 Oct 15:265:115503.

Version 2025.03.12