



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

Hoechst 33258染色液

产品编号	产品名称	包装
C1017	Hoechst 33258染色液	10ml

产品简介:

- Hoechst 33258, 也称bisBenzimide H 33258或HOE 33258。分子式为 $C_{25}H_{24}N_6O \cdot 3HCl$, 分子量为533.88, CAS Number 23491-45-4。
- Hoechst 33258是一种可以穿透细胞膜的蓝色荧光染料, 对细胞的毒性较低。
- Hoechst 33258染色常用于细胞凋亡检测, 染色后用荧光显微镜观察或流式细胞仪检测。Hoechst 33258也常用于普通的细胞核染色, 或常规的DNA染色。
- Hoechst 33258的最大激发波长为346nm, 最大发射波长为460nm; Hoechst 33258和双链DNA结合后, 最大激发波长为352nm, 最大发射波长为461nm。
- 本Hoechst 33258染色液可直接用于固定细胞或组织的细胞核染色, 也可直接用于活细胞或组织的细胞核染色。

包装清单:

产品编号	产品名称	包装
C1017	Hoechst 33258染色液	10ml
—	说明书	1份

保存条件:

-20°C避光保存, 一年有效。

注意事项:

- 本Hoechst 33258染色液的浓度经过碧云天的优化, 确保可以满足各种常规染色的需要。如需使用特定浓度的Hoechst 33258, 请选购碧云天的Hoechst 33258 (C1011)。如需染色活细胞或培养的组织, 请选购碧云天的Hoechst 33342活细胞染色液(100X) (C1027、C1028或C1029), 效果更佳。
- 荧光染料都存在淬灭的问题, 建议染色后尽量当天完成检测。活细胞或组织染色后宜立即观察。
- 为减缓荧光淬灭可以使用抗荧光淬灭封片液。抗荧光淬灭封片液(P0126)可以向碧云天订购。
- 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. 对于固定的细胞或组织:

- 对于细胞或组织样品, 固定后, 适当洗涤去除固定剂。随后如果需要进行免疫荧光染色, 则先进行免疫荧光染色, 染色完毕后再按后续步骤进行Hoechst 33258染色。如果不需要进行其它染色, 则直接进行后续的Hoechst 33258染色。
- 对于贴壁细胞或组织切片, 加入少量Hoechst 33258染色液, 覆盖住样品即可。对于悬浮细胞, 至少加入待染色样品体积3倍的染色液, 混匀。室温放置3-5分钟。
- 吸除Hoechst 33258染色液, 用TBST、PBS或生理盐水洗涤2-3次, 每次3-5分钟。
- 直接在荧光显微镜下观察或封片后荧光显微镜下观察。细胞发生凋亡时, 会看到凋亡细胞的细胞核呈致密浓染, 或呈碎块状致密浓染。

2. 对于活细胞或培养的组织:

- 加入适当量Hoechst 33258染色液, 必须充分覆盖住待染色的样品, 通常对于六孔板一个孔需加入1ml染色液, 对于96孔板一个孔需加入100微升染色液。
- 在适宜于细胞培养的温度培养20-30分钟。弃染色液, 用PBS或培养液洗涤2-3次即可进行荧光检测。细胞发生凋亡时, 在荧光显微镜下观察会看到凋亡细胞的细胞核呈致密浓染, 或呈碎块状致密浓染。

相关产品:

产品编号	产品名称	包装
C1002	DAPI	5mg/ml×0.2ml
C1005	DAPI 染色液	10ml

C1006	DAPI 染色液	50ml
C1011	Hoechst 33258	10mg
C1017	Hoechst 33258 染色液	10ml
C1018	Hoechst 33258 染色液	50ml
C1022	Hoechst 33342	10mg
C1025	Hoechst 33342 染色液	10ml
C1026	Hoechst 33342 染色液	50ml
C1027	Hoechst 33342 活细胞染色液(100X)	0.1ml
C1028	Hoechst 33342 活细胞染色液(100X)	0.5ml
C1029	Hoechst 33342 活细胞染色液(100X)	3ml

使用本产品的文献：

1.

Li-Xin Zhu, Jing Liu, You-Hua Xie, Yu-Ying Kong, Ye Ye, Chun-Lin Wang, Guang-Di Li, Yuan Wang. Expression of hepatitis C virus envelope protein 2 induces apoptosis in cultured mammalian cells. WORLD J GASTROENTERO. 2004 Oct 15;10(20):2972-8.

2.

Yao G, Yang L, Hu Y, Liang J, Liang J, Hou Y. Nonylphenol-induced thymocyte apoptosis involved caspase-3 activation and mitochondrial depolarization. Mol Immunol. 2006 Mar;43(7):915-26.

3.

Jiang P, Yan PK, Chen JX, Zhu BY, Lei XY, Yin WD, Liao DF. High density lipoprotein 3 inhibits oxidized low density lipoprotein-induced apoptosis via promoting cholesterol efflux in RAW264.7 cells. Acta Pharmacol Sin. 2006 Feb;27(2):151-7.

4.

Xiong XL, Jia RH, Yang DP, Ding GH. Irbesartan attenuates contrast media-induced NRK-52E cells apoptosis. Pharmacol Res. 2006 Oct;54(4):253-60.

5.

Lin YF, Zhang N, Guo HS, Kong DS, Jiang T, Liang W, Zhao ZH, Tang QQ, Ma D. Recombinant tissue factor pathway inhibitor induces apoptosis in cultured rat mesangial cells via its Kunitz-3 domain and C-terminal through inhibiting PI3-kinase/Akt pathway. Apoptosis. 2007 Dec;12(12):2163-73.

6.

Lin X, Chen X, Wei Y, Zhao J, Fan L, Wen Y, Wu H, Zhao X. Efficient inhibition of intraperitoneal human ovarian cancer growth and prolonged survival by gene transfer of vesicular stomatitis virus matrix protein in nude mice. Gynecol Oncol. 2007 Mar;104(3):540-546.

7.

Yao G, Ling L, Luan J, Ye D, Zhu P. Nonylphenol induces apoptosis of Jurkat cells by a caspase-8 dependent mechanism. Int Immunopharmacol. 2007 Apr;7(4):444-53.

8.

Zhang Y, Ba Y, Liu C, Sun G, Ding L, Gao S, Hao J, Yu Z, Zhang J, Zen K, Tong Z, Xiang Y, Zhang CY. PGC-1alpha induces apoptosis in human epithelial ovarian cancer cells through a PPARGgamma-dependent pathway. Cell Res. 2007 Apr;17(4):363-73.

9.

Li X, Peng C, Li L, Ming M, Yang D, Le W. Glial cell-derived neurotrophic factor protects against proteasome inhibition-induced dopamine neuron degeneration by suppression of endoplasmic reticulum stress and caspase-3 activation. J GERONTOL A-BIOL. 2007 Sep;62(9):943-50.

10.

Wang Q, Wang Y, Liang C, Song J, Chen X. Identification of a hydrophobic domain of HA2 essential to morphogenesis of Helicoverpa armigera nucleopolyhedrovirus. J Virol. 2008 Apr;82(8):4072-81.

11.

Xu HM, Jiang H, Wang J, Luo B, Xie JX. Over-expressed human divalent metal transporter 1 is involved in iron accumulation in MES23.5 cells. Neurochem Int. 2008 May;52(6):1044-51.

12.

Chen P, Yang LL, Yang HS, Wang YS, Li G, Wu Y, Fang F, Liu K, Li J, Zhao X, Hu HZ, Wei YQ. Synergistic antitumor effect of CXCL10 with hyperthermia. J CANCER RES CLIN. 2008 Jun;134(6):679-87.

13.

Zhou J, Ye J, Zhao X, Li A, Zhou J. JWA is required for arsenic trioxide induced apoptosis in HeLa and MCF-7 cells via reactive oxygen species and mitochondria linked signal pathway. TOXICOL APPL PHARM . 2008 Jul 1;230(1):33-40.

14.

Yang X, Zhang Y, Zhang L, Zhang L, Mao J. Silencing alpha-fetoprotein expression induces growth arrest and apoptosis in human hepatocellular cancer cell. Cancer Lett. 2008 Nov 28;271(2):281-93.

15.

Zhang S, Wang J, Song N, Xie J, Jiang H. Up-regulation of divalent metal transporter 1 is involved in 1-methyl-4-phenylpyridinium (MPP(+))-induced apoptosis in MES23.5 cells. Neurobiol Aging. 2009 Sep; 30(9):1466-76.

16.

Hu Z, Pan Y, Wang J, Chen J, Li J, Ren L. Meso-tetra (carboxyphenyl) porphyrin (TCPP) nanoparticles were internalized by SW480 cells by a clathrin-mediated endocytosis pathway to induce high photocytotoxicity. Biomed Pharmacother. 2009 Feb;63(2):155-64.

17.

Li ZX, Ouyang KQ, Jiang X, Wang D, Hu Y. Curcumin induces apoptosis and inhibits growth of human Burkitt's lymphoma in xenograft mouse model. Mol Cells. 2009 Mar;27(3):283-9.

18.

Gong Y, Wu J, Huang Y, Shen S, Han X. Nonylphenol induces apoptosis in rat testicular Sertoli cells via endoplasmic reticulum stress. Toxicol Lett. 2009 Apr 25;186(2):84-95.

19.

Zhang SP, Zhou YJ, Liu Y, Cai YQ. Effect of liquiritigenin, a flavanone existed from Radix glycyrrhizae on pro-apoptotic in SMMC-7721 cells. Food Chem Toxicol. 2009 Apr;47(4):693-701.

20.

Guo CJ, Pan Q, Li DG, Sun H, Liu BW. miR-15b and miR-16 are implicated in activation of the rat hepatic stellate cell: An essential role for apoptosis. J Hepatol. 2009 Apr;50(4):766-78.

21.

Zeng X, Nan F, Liang C, Song J, Wang Q, Vlak JM, Chen X. Functional analysis of the Autographa californica nucleopolyhedrovirus IAP1 and IAP2. SCI CHINA LIFE SCI. 2009 Aug;52(8):761-70.

22.

Zhang PY, Zhang WG, He AL, Wang JL, Li WB. Identification and functional characterization of the novel acute monocytic leukemia associated antigen MLAA-34. CANCER IMMUNOL IMMUN. 2009 Feb;58(2):281-90.

23.

Li G, Shi H, Huang H, Zhang Y, Wu K, Luo J, Sun Y, Lu J, L. Benovic J and Zhou N. Internalization of the human nicotinic acid receptor GPR109A is regulated by Gi, GRK2, and arrestin3. J BIOL CHEM. 2010 Jul 16;285(29):22605-18.

24.

Qian J, Jiang F, Wang B, Yu Y, Zhang X, Yin Z, Liu C. Ophiopogonin D prevents H2O2-induced injury in primary human umbilical vein endothelial cells. J Ethnopharmacol. 2010 Mar 24;128(2):438-45.

25.

Chen X, Tang W, Liu S, Yu L, Chen Z. Thioredoxin-1 phosphorylated at T100 is needed for its anti-apoptotic activity in HepG2 cancer cells. Life Sci. 2010 Aug 14;87(7-8):254-60.

26.

Ma J, Lu HY, Xia YK, Dong HB, Gu AH, Li ZY, Li Z, Chen AM, Wang XR, Wang SL. BCL2 Ala43Thr is a functional variant associated with protection against azoospermia in a Han-Chinese population. Biol Reprod. 2010 Oct;83(4):656-62.

27.

Liu JT, Guo X, Ma WJ, Zhang YG, Xu P, Yao JF, Bai YD. Mitochondrial function is altered in articular chondrocytes of an endemic osteoarthritis, Kashin-Beck disease. OSTEOARTHR CARTILAGE. 2010 Sep;18(9):1218-26.

28.

Zhu W, Chang Y, Wu C, Han Q, Pei R, Lu M, Chen X. The wild-type hepatitis C virus core inhibits initiation of antigen-specific T- and B-cell immuneresponses in BALB/c mice. Clin Vaccine Immunol. 2010 Jul;17(7):1139-47.

29.

Wang J, Han X, Yang H, Lu L, Wu Y, Liu X, Guo R, Zhang Y, Zhang Y, Li Q. A novel RGD-toxin protein, Lj-RGD3, from the buccal gland secretion of Lampetra japonica impacts diverse biological activities. Biochimie. 2010 Oct;92(10):1387-96.

30.

Li K, Wang Y, Bai H, Wang Q, Song J, Zhou Y, Wu C, Chen X. The putative pocket protein binding site of Autographa californica nucleopolyhedrovirus BV/ODV-C42 is

- required for virus-induced nuclear actin polymerization. J Virol. 2010 Aug;84(15):7857-68.
31. Ren J, Zhu D, Liu M, Sun Y, Tian L. Downregulation of miR-21 modulates Ras expression to promote apoptosis and suppress invasion of Laryngeal squamous cell carcinoma. Eur J Cancer. 2010 Dec;46(18):3409-16.
32. Wang F, Ding W, Wang J, Jing R, Wang X, Cong H, Wang Y, Ju S, Wang H. Identification of microRNA-target interaction in APRIL-knockdown colorectal cancer cells. Cancer Gene Ther. 2011 Jul;18(7):500-9.
33. Li DL, Liu JJ, Liu BH, Hu H, Sun L, Miao Y, Xu HF, Yu XJ, Ma X, Ren J, Zang WJ. Acetylcholine inhibits hypoxia-induced tumor necrosis factor- α production via regulation of MAPKs phosphorylation in cardiomyocytes. J Cell Physiol. 2011 Apr;226(4):1052-9.
34. Jiang QH, Liu L, Shen JW, Peel S, Yang GL, Zhao SF, He FM. Influence of multilayer rhBMP-2 DNA coating on the proliferation and differentiation of MC3T3-E1 cells seeded on roughed titanium surface. J Biomed Mater Res A. 2012 Oct;100(10):2766-74.
35. He D, Ma X, Chen Y, Cai Y, Ru X, Bruce IC, Xia Q, Shi G, Jin J. Luteolin inhibits pyrogallol-induced apoptosis through the extracellular signal-regulated kinase signaling pathway. FEBS J. 2012 May;279(10):1834-43.
36. Shi W, Nie D, Jin G, Chen W, Xia L, Wu X, Su X, Xu X, Ni L, Zhang X, Zhang X, Chen J. BDNF blended chitosan scaffolds for human umbilical cord MSC transplants in traumatic brain injury therapy. Biomaterials. 2012 Apr;33(11):3119-26.
37. Song J, Wang M, Huang H, Luo X, Deng F, Wang H, Hu Z. Functional studies of per os infectivity factor 3 of Helicoverpa armigera nucleopolyhedrovirus. J Gen Virol. 2012 Feb;93(Pt 2):374-82.
38. Wu C, Deng W, Deng L, Cao L, Qin B, Li S, Wang Y, Pei R, Yang D, Lu M, Chen X. Amino acid substitutions at positions 122 and 145 of hepatitis B virus surface antigen (HBsAg) determine the antigenicity and immunogenicity of HBsAg and influence in vivo HBsAg clearance. J Virol. 2012 Apr;86(8):4658-69. 1.
39. Yuan XH, Lu CL, Yao N, An LS, Yang BQ, Zhang CL, Ma X. Arsenic induced progesterone production in a caspase-3-dependent manner and changed redox status in preovulatory granulosa cells. J Cell Physiol. 2012 Jan;227(1):194-203.
40. Tang W, Zhang Y, Qian C, Yuan Z. Induction and mechanism of apoptosis by hydroxycamptothecin in human Tenon's capsule fibroblasts. INVEST OPHTH VIS SCI. 2012 Jul 24;53(8):4874-80.
41. Zhang L, Ruan J, Yan L, Li W, Wu Y, Tao L, Zhang F, Zheng S, Wang A, Lu Y. Xanthatin induces cell cycle arrest at G2/M checkpoint and apoptosis via disrupting NF- κ B pathway in A549 non-small-cell lung cancer cells. Molecules. 2012 Mar 26;17(4):3736-50.
42. Jiang C, Zhang S, Liu H, Zeng Q, Xia T, Chen Y, Kuang G, Zhao G, Wu X, Zhang X, Wang A. The role of the IRE1 pathway in PBDE-47-induced toxicity in human neuroblastoma SH-SY5Y cells in vitro. Toxicol Lett. 2012 Jun 20;211(3):325-33.
43. Li XJ, Zhu CD, Yu W, Wang P, Chen FF, Xia XY, Luo B. Overexpression of Id3 induces apoptosis of A549 human lung adenocarcinoma cells. CELL PROLIFERAT. 2012 Feb;45(1):1-8.
44. Zhou P, Li H, Wang H, Wang LF, Shi Z. Bat severe acute respiratory syndrome-like coronavirus ORF3b homologues display different interferon antagonist activities. J Gen Virol. 2012 Feb;93(Pt 2):275-81.
45. Liu M, Yang S, Jin L, Hu D, Wu Z, Yang S. Chemical Constituents of the Ethyl Acetate Extract of Belamcanda chinensis (L.) DC Roots and Their Antitumor Activities. Molecules. 2012 May 24;17(5):6156-69.
46. Wang PH, Liang JP, Gu ZH, Wan DH, Weng SP, Yu XQ, He JG. Molecular cloning, characterization and expression analysis of two novel Toll (LvToll2 and LvToll3) and three putative Spätzle-like Toll ligands (LvSpz1-3) from Litopenaeus vannamei. Dev Comp Immunol. 2012 Feb;36(2):359-71.
47. Wang PH, Wan DH, Pang LR, Gu ZH, Qiu W, Weng SP, Yu XQ, He JG. Molecular cloning, characterization and expression analysis of the tumor necrosis factor (TNF) superfamily gene, TNF receptor superfamily gene and lipopolysaccharide-induced TNF- α factor (LITAF) gene from Litopenaeus vannamei. Dev Comp Immunol. 2012 Jan;36(1):39-50.
48. Chen YH, Zhao L, Jia XT, Li XY, Li CZ, Yan H, Weng SP, He JG. Isolation and characterization of cDNAs encoding Ars2 and Pasha homologues, two components of the RNA interference pathway in Litopenaeus vannamei. FISH SHELLFISH IMMUN. 2012 Feb;32(2):373-80.
49. Ye Y, Li Z, Xing D. Nitric oxide promotes MPK6-mediated caspase-3-like activation in cadmium-induced Arabidopsis thaliana programmed cell death. Plant Cell Environ. 2013 Jan;36(1):1-15.
50. Yu W, Sheng M, Xu R, Yu J, Cui K, Tong J, Shi L, Ren H, Du H. Berberine protects human renal proximal tubular cells from hypoxia/reoxygenation injury via inhibiting endoplasmic reticulum and mitochondrial stress pathways. J Transl Med. 2013 Jan 29;11:24.
51. Tang XP, Tang GD, Fang CY, Liang ZH, Zhang LY. Effects of ginsenoside Rh2 on growth and migration of pancreatic cancer cells. WORLD J GASTROENTERO. 2013 Mar 14;19(10):1582-92.
52. Yang S, Zhao Q, Xiang H, Liu M, Zhang Q, Xue W, Song B, Yang S. Antiproliferative activity and apoptosis-inducing mechanism of constituents from Toona sinensis on human cancer cells. CANCER CELL INT. 2013 Feb 9;13(1):12.
53. Yang YH, Chen K, Li B, Chen JW, Zheng XF, Wang YR, Jiang SD, Jiang LS. Estradiol inhibits osteoblast apoptosis via promotion of autophagy through the ER-ERK-mTOR pathway. Apoptosis. 2013 Nov;18(11):1363-75.
54. Li RL, Huang JJ, Shi YQ, Hu A, Lu ZY, Weng L, Wang SQ, Han YP, Zhang L, Hao CN, Duan JL. Pulsed electromagnetic field improves postnatal neovascularization in response to hindlimb ischemia. Am J Transl Res. 2015 Mar 15;7(3):430-44.
55. Fu X, Liu Y, Zhuang C, Liu L, Cai Z, Huang W. Synthetic artificial microRNAs targeting UCA1-MALAT1 or c-Myc inhibit malignant phenotypes of bladder cancer cells T24 and 5637. Mol Biosyst. 2015 May;11(5):1285-9.
56. Lu J, Cao Y, Cheng K, Xu B, Wang T, Yang Q, Yang Q, Feng X, Xia Q. Berberine regulates neurite outgrowth through AMPK-dependent pathways by lowering energy status. Exp Cell Res. 2015 Jun 10;334(2):194-206.
57. Wu D, Hu Q, Liu X, Pan L, Xiong Q, Zhu YZ. Hydrogen sulfide protects against apoptosis under oxidative stress through SIRT1 pathway in H9c2 cardiomyocytes. NITRIC OXIDE-BIOL CH. 2015 Apr 30;46:204-12.
58. Wu T, Wang S, Wu J, Lin Z, Sui X, Xu X, Shimizu N, Chen B, Wang X. Icaritin induces lytic cytotoxicity in extranodal NK/T-cell lymphoma. J EXP CLIN CANC RES. 2015 Feb 15;34:17.
59. Peng X, Zhuang DD, Guo QS. Induction of S phase arrest and apoptosis by ethyl acetate extract from Tetrastigma hemsleyanum in human hepatoma HepG2 cells. TUMOR BIOL. 2015 Apr;36(4):2541-50.
60. Dong M, Lu Y, Zou Z, Yang H. Monoacylglycerol lipase inhibitor protects primary cultured neurons against homocysteine-induced impairments in rat caudate nucleus through COX-2 signaling. Life Sci. 2015 Oct 1;138:64-71.
61. Xu L, Liu JH, Zhang J, Zhang N, Wang ZH. Blockade of autophagy aggravates endoplasmic reticulum stress and improves Paclitaxel cytotoxicity in human cervical cancer cells. Cancer Res Treat. 2015 Apr;47(2):313-21.
62. Yan L, Wang C, Lin B, Liu J, Liu D, Hou R, Wang Y, Gao L, Zhang S, Iwamori M. Lewis y enhances CAM-DR in ovarian cancer cells by activating the FAK signaling pathway and upregulating Bcl-2/Bcl-XL expression. Biochimie. 2015 Jun;113:17-25.
63. Zhuang CL, Fu X, Liu L, Liu YC, Huang WR, Cai ZM. Synthetic miRNA sponges driven by mutant hTERT promoter selectively inhibit the progression of bladder cancer. TUMOR BIOL. 2015 Jul;36(7):5157-63.
64. Jia G, Wang Q, Wang R, Deng D, Xue L, Shao N, Zhang Y, Xia X, Zhi F, Yang Y. Tubeimoside-1 induces glioma apoptosis through regulation of Bax/Bcl-2 and the ROS/Cytochrome C/Caspase-3 pathway. ONCOTARGETS THER. 2015 Jan 30;8:303-11.
65. Nie GH, Luo L, Duan HF, Li XQ, Yin MJ, Li Z, Zhang W. GALNT7, a target of miR-494, participates in the oncogenesis of nasopharyngeal carcinoma. TUMOR BIOL. 2016 Apr;37(4):4559-67.
66. Jiang Q, Liu Y, Duan D, Gou M, Wang H, Wang J, Li Q, Xiao R. Anti-angiogenic activities of CRBGP from buccal glands of lampreys (Lampetra japonica). Biochimie. April 2016 Apr;123:7-19.

67. Han H, Yang J, Fei S, Liu Z, Zhu S, Dong Q, Gao Z, Wang S, Zhang J. Protective effect of carbachol postconditioning on hypoxia/reoxygenation-induced injury in human gastric epithelial cells. *Life Sci.* 2016 Jan;144:234–42.
68. Wang W, Long L, Wang L, Tan C, Fei X, Chen L, Huang Q, Liang Z. Knockdown of Cathepsin L promotes radiosensitivity of glioma stem cells both in vivo and in vitro. *Cancer Lett.* 2016 Feb 28;371(2):274-84.
69. Wu C, Hu Y, Fan L, Wang H, Sun Z, Deng S, Liu Y, Hu C. Ctenopharyngodon idella PKZ facilitates cell apoptosis through phosphorylating eIF2 α . *Mol Immunol.* 2016 Jan;69:13-23.
70. Li J, Li J, Aipire A, Gao L, Huo S, Luo J, Zhang F. Phenylethanoid Glycosides from *Cistanche tubulosa* Inhibits the Growth of B16-F10 Cells both in Vitro and in Vivo by Induction of Apoptosis via Mitochondria-dependent Pathway. *J Cancer.* 2016 Sep 12;7(13):1877-1887.
71. Chen L, Wang L, Yan J, Ma C, Lu J, Chen G, Chen S, Su F, Wang W, Su X. 131I-labeled monoclonal antibody targeting neuropilin receptor type-2 for tumor SPECT imaging. *Int J Oncol.* 2017 Feb;50(2):649-659.
72. Jiang Q, Li Q, Han J, Gou M, Zheng Y, Li B, Xiao R, Wang J. rLj-RGD3 induces apoptosis via the mitochondrial-dependent pathway and inhibits adhesion, migration and invasion of human HeyA8 cells via FAK pathway. *J PATHOL.* 2017 Mar;96:652-668.
73. Li D, Li X, Li G, Meng Y, Jin Y, Shang S, Li Y. Alpinumisoflavone causes DNA damage in Colorectal Cancer Cells via blocking DNA repair mediated by RAD51. *Life Sci.* 216:259-270.
74. Guan YD, Jiang SL, Yu P, Wen M, Zhang Y, Xiao SS, Xu XJ, Cheng Y. Suppression of eEF-2K-mediated autophagy enhances the cytotoxicity of raddeanin A against human breast cancer cells in vitro. *Acta Pharmacol Sin.* 2018 Apr;39(4):642-648.
75. Yang X, Lu Z, Wu H, Li W, Zheng L, Zhao J. Collagen-alginate as bioink for three-dimensional (3D) cell printing based cartilage tissue engineering. *MAT SCI ENG C-MATER.* 2018 Feb 1;83:195-201.
76. Wang CG, Lou YT, Tong MJ, Zhang LL, Zhang ZJ, Feng YZ, Li S, Xu HZ, Mao C. Asperosaponin VI promotes angiogenesis and accelerates wound healing in rats via up-regulating HIF-1 α /VEGF signaling. *Acta Pharmacol Sin.* 2018 Mar;39(3):393-404.
77. Zhang J, Zhang Z, Shu B, Cui G, Zhong G. Cytotoxic and Apoptotic Activity of the Novel Harmine Derivative ZC-14 in Sf9 Cells. *Int J Mol Sci.* 2018 Mar 11;19(3). pii: E811.
78. Du X, Zhu Y, Peng Z, Cui Y, Zhang Q, Shi Z, Guan Y, Sha X, Shen T, Yang Y, Li X, Wang Z, Li X, Liu G. High concentrations of fatty acids and β -hydroxybutyrate impair the growth hormone-mediated hepatic JAK2-STAT5 pathway in clinically ketotic cows. *J Dairy Sci.* 101(4):3476-3487.
79. Wang C, Zhang Z, Xu T, Lou Y, Wang Q, Jin H, Zhang L, Feng Y, Xu H, Mao C. Upregulating mTOR/ERK signaling with leonurine for promoting angiogenesis and tissue regeneration in a full-thickness cutaneous wound model. *Food Funct.* 9(4):2374-2385.
80. Zhou H, Liu Y, Wang C, Liu L, Wang H, Zhang Y, Long C, Sun X. Triptolide inhibits Epstein-Barr nuclear antigen 1 expression by increasing sensitivity of mitochondria apoptosis of nasopharyngeal carcinoma cells. *J EXP CLIN CANC RES.* 37(1):192.
81. Yao GD, Wang J, Song XY, Zhou L, Lou LL, Zhao WY, Lin B, Huang XX, Song SJ. Stereoisomeric guaiacylglycerol- β -coniferyl aldehyde ether induces distinctive apoptosis by downregulation of MEK/ERK pathway in hepatocellular carcinoma cells. *Bioorg Chem.* 81:382-388.
82. Chen Q, Su Y, Ju Y, Ma K, Li W, Li W. Astragalosides IV protected the renal tubular epithelial cells from free fatty acids-induced injury by reducing oxidative stress and apoptosis. *Biomed Pharmacother.* 108:679-686.
83. Jiang P, Xu C, Chen L, Chen A, Wu X, Zhou M, Haq IU, Mariyam Z, Feng Q. EGCG inhibits CSC-like properties through targeting miR-485/CD44 axis in A549-cisplatin resistant cells. *MOL CARCINOGEN.* 57(12):1835-1844.
84. Xu Z, Huang B, Liu J, Wu X, Luo N, Wang X, Zheng X, Pan X. Combinatorial anti-proliferative effects of tamoxifen and naringenin: The role of four estrogen receptor subtypes. *Toxicology.* 410:231-246.
85. Huang L, Xiao L, Jung Poudel A, Li J, Zhou P, Gauthier M, Liu H, Wu Z, Yang G. Porous chitosan microspheres as microcarriers for 3D cell culture. *CARBOHYD POLYM.* 202:611-620.
86. Dai X, Yin C, Zhang Y, Guo G, Zhao C, Wang O, Xiang Y, Zhang X, Liang G. Osteolysis inhibits triple negative breast cancer cells by suppressing STAT3. *J EXP CLIN CANC RES.* 37(1):322.
87. Duan D, Wang H, Zhou R, Jiang Q, Xiao R. The PR-1 domain accounts for the anti-angiogenic activity of a cysteine-rich secretory protein member from the buccal glands of *Lampetra japonica*. *Int J Biol Macromol.* 107(Pt B):2102-2112.
88. Huang L, Huang K, Ning H. Hispidulin prevents sevoflurane- Induced memory dysfunction in aged rats. *Biomed Pharmacother.* 97:412-422.
89. Li L, Li W, Wang C, Yan X, Wang Y, Niu C, Zhang X, Li M, Tian H, Yao C, Jin H, Han F, Xu D, Han W, Li D, Cui J. Adoptive transfer of natural killer cells in combination with chemotherapy improves outcomes of patients with locally advanced colon carcinoma. *Cytotherapy.* 20(1):134-148.
90. Zou WW, Xu SP. Galangin inhibits the cell progression and induces cell apoptosis through activating PTEN and Caspase-3 pathways in retinoblastoma. *Biomed Pharmacother.* 97:851-863.
91. Aipire A, Chen Q, Cai S, Li J, Fu C, Ying T, Lu J, Li J. N-Butanol Subfraction of *Brassica Rapa* L. Promotes Reactive Oxygen Species Production and Induces Apoptosis of A549 Lung Adenocarcinoma Cells via Mitochondria-Dependent Pathway. *Molecules.* 23(7). pii: E1687.
92. Dai S, Zhang T, Zhang Y, Wang H, Deng F. Zika Virus Baculovirus-Expressed Virus-Like Particles Induce Neutralizing Antibodies in Mice. *Virol Sin.* 33(3):213-226.
93. Zhang X, Zhang S, Sun Q, Jiao W, Yan Y, Zhang X. Compound K Induces Endoplasmic Reticulum Stress and Apoptosis in Human Liver Cancer Cells by Regulating STAT3. *Molecules.* 23(6). pii: E1482.
94. Zhu L, Zou J, Zhao Y, Jiang X, Wang Y, Wang X, Chen B. ER- α 36 mediates cisplatin resistance in breast cancer cells through EGFR/HER-2/ERK signaling pathway. *J EXP CLIN CANC RES.* 37(1):123.
95. Wang C, Mao C, Lou Y, Xu J, Wang Q, Zhang Z, Tang Q, Zhang X, Xu H, Feng Y. Monotropin promotes angiogenesis and inhibits oxidative stress-induced autophagy in endothelial progenitor cells to accelerate wound healing. *J Cell Mol Med.* 22(3):1583-1600.
96. Zhang X, Zhang M, Xiao B, Jiao W, Zhang S, Zhang X. TTF1-NP induces protective autophagy during apoptosis by inhibiting the Akt/mTOR pathway and activating JNK in human liver cancer cells. *Oncol Rep.* 39(3):1423-1431.
97. Zhang B, Cui Y, Wang L, Zhao L, Hou C, Zeng Q, Zhang Z, Yu J, Zhao Y, Nie J, Chen X, Wang A, Liu H. Autophagy regulates high concentrations of iodide-induced apoptosis in SH-SY5Y cells. *Toxicol Lett.* 284:129-135.
98. Huang RZ, Huang XC, Zhang B, Jia HY, Liao ZX, Wang HS. 16-O-caffeoyl-16-hydroxylhexadecanoic acid, a medicinal plant-derived phenylpropanoid, induces apoptosis in human hepatocarcinoma cells through ROS-dependent endoplasmic reticulum stress. *Phytomedicine.* 41:33-44.
99. Jiang W, Guo M, Gong M, Chen L, Bi Y, Zhang Y, Shi Y, Qu P, Liu Y, Chen J, Li T. Vitamin A bio-modulates apoptosis via the mitochondrial pathway after hypoxic-ischemic brain damage. *Mol Brain.* 11(1):14.
100. Li J, Chen Q, He X, Alam A, Ning J, Yi B, Lu K, Gu J. Dexmedetomidine attenuates lung apoptosis induced by renal ischemia-reperfusion injury through a 2AR/PI3K/Akt pathway. *J Transl Med.* 16(1):78.
101. Yuan M, Ning M, Wei P, Hao W, Jing Y, Gu W, Wang W, Meng Q. The function of serpin-2 from *Eriocheir sinensis* in *Spiroplasma eriocheiris* infection. *FISH SHELLFISH IMMUN.* 76:21-26.
102. Huang RZ, Jin L, Wang CG, Xu XJ, Du Y, Liao N, Ji M, Liao ZX, Wang HS. A pentacyclic triterpene derivative possessing polyhydroxyl ring A suppresses growth of HeLa cells by reactive oxygen species-dependent NF- κ B pathway. *Eur J Pharmacol.* 838:157-169.
103. Mo J, Lin D, Wang J, Li P, Liu W. Apoptosis in HepG2 cells induced by zinc pyrithione via mitochondrial dysfunction pathway: Involvement of zinc accumulation and oxidative stress. *ECOTOX ENVIRON SAFE.* 161:515-525.

104. Huang M, Geng Y, Deng Q, Li R, Shao X, Zhang Z, Xu W, Wu Y, Ma Q. Translationally controlled tumor protein affects colorectal cancer metastasis through the high mobility group box 1-dependent pathway. *Int J Oncol*. 53(4):1481-1492.
105. Ran X, Liu C, Weng P, Xu X, Lin G, Qi G, Yu N, Xu K, Wu Z, Hu C. Activated grass carp STAT6 up-regulates the transcriptional level and expression of CCL20 and Bcl-xl. *FISH SHELLFISH IMMUN*. 80:214-222.
106. Ning M, Yuan M, Liu M, Gao Q, Wei P, Gu W, Wang W, Meng Q. Characterization of cathepsin D from *Eriocheir sinensis* involved in *Spiroplasma eriocheiris* infection. *Dev Comp Immunol*. 86:1-8.
107. Li X, Huang F, Xu X, Hu S. Polyclonal Rabbit Anti-Cancer-Associated Fibroblasts Globulins Induce Cancer Cells Apoptosis and Inhibit Tumor Growth. *Int J Biol Sci*. 14(12):1621-1629.
108. Pan Z, Qu C, Chen Y, Chen X, Liu X, Hao W, Xu W, Ye L, Lu P, Li D, Zheng Q. Bufotalin induces cell cycle arrest and cell apoptosis in human malignant melanoma A375 cells. *Oncol Rep*. 41(4):2409-2417.
109. Zhao C, Wang Y, Peng Z, Sun X, Sun G, Yuan X, Li X, Liu G. Subacute ruminal acidosis suppressed the expression of MCT1 in rumen of cows. *J Cell Physiol*. 234(7):11734-11745.
110. Wen Y, Chen Y, Li L, Xu M, Tan Y, Li Y, Wang C, Chen Q, Kuang X, Wu Y. Localization and characterization of a putative cysteine desulfurase in *Chlamydia psittaci*. *J Cell Biochem*. 120(3):4409-4422.
111. Pan Z, Zhang X, Yu P, Chen X, Lu P, Li M, Liu X, Li Z, Wei F, Wang K, Zheng Q, Li D. Cinobufagin Induces Cell Cycle Arrest at the G2/M Phase and Promotes Apoptosis in Malignant Melanoma Cells. *Front Oncol*. 9:853.
112. Li-Xin Zhu, Jing Liu, You-Hua Xie, Yu-Ying Kong, Ye Ye, Chun-Lin Wang, Guang-Di Li, Yuan Wang. Expression of hepatitis C virus envelope protein 2 induces apoptosis in cultured mammalian cells. *WORLD J GASTROENTERO*. 2004 Oct 15;10(20):2972-8.
113. Yao G, Yang L, Hu Y, Liang J, Liang J, Hou Y. Nonylphenol-induced thymocyte apoptosis involved caspase-3 activation and mitochondrial depolarization. *Mol Immunol*. 2006 Mar;43(7):915-26.
114. Jiang P, Yan PK, Chen JX, Zhu BY, Lei XY, Yin WD, Liao DF. High density lipoprotein 3 inhibits oxidized low density lipoprotein-induced apoptosis via promoting cholesterol efflux in RAW264.7 cells. *Acta Pharmacol Sin*. 2006 Feb;27(2):151-7.
115. Xiong XL, Jia RH, Yang DP, Ding GH. Irbesartan attenuates contrast media-induced NRK-52E cells apoptosis. *Pharmacol Res*. 2006 Oct;54(4):253-60.
116. Lin YF, Zhang N, Guo HS, Kong DS, Jiang T, Liang W, Zhao ZH, Tang QQ, Ma D. Recombinant tissue factor pathway inhibitor induces apoptosis in cultured rat mesangial cells via its Kunitz-3 domain and C-terminal through inhibiting PI3-kinase/Akt pathway. *Apoptosis*. 2007 Dec;12(12):2163-73.
117. Lin X, Chen X, Wei Y, Zhao J, Fan L, Wen Y, Wu H, Zhao X. Efficient inhibition of intraperitoneal human ovarian cancer growth and prolonged survival by gene transfer of vesicular stomatitis virus matrix protein in nude mice. *Gynecol Oncol*. 2007 Mar;104(3):540-546.
118. Yao G, Ling L, Luan J, Ye D, Zhu P. Nonylphenol induces apoptosis of Jurkat cells by a caspase-8 dependent mechanism. *Int Immunopharmacol*. 2007 Apr;7(4):444-53.
119. Zhang Y, Ba Y, Liu C, Sun G, Ding L, Gao S, Hao J, Yu Z, Zhang J, Zen K, Tong Z, Xiang Y, Zhang CY. PGC-1alpha induces apoptosis in human epithelial ovarian cancer cells through a PPARgamma-dependent pathway. *Cell Res*. 2007 Apr;17(4):363-73.
120. Li X, Peng C, Li L, Ming M, Yang D, Le W. Glial cell-derived neurotrophic factor protects against proteasome inhibition-induced dopamine neuron degeneration by suppression of endoplasmic reticulum stress and caspase-3 activation. *J GERONTOL A-BIOL*. 2007 Sep;62(9):943-50.
121. Wang Q, Wang Y, Liang C, Song J, Chen X. Identification of a hydrophobic domain of HA2 essential to morphogenesis of *Helicoverpa armigera* nucleopolyhedrovirus. *J Virol*. 2008 Apr;82(8):4072-81.
122. Xu HM, Jiang H, Wang J, Luo B, Xie JX. Over-expressed human divalent metal transporter 1 is involved in iron accumulation in MES23.5 cells. *Neurochem Int*. 2008 May;52(6):1044-51.
123. Chen P, Yang LL, Yang HS, Wang YS, Li G, Wu Y, Fang F, Liu K, Li J, Zhao X, Hu HZ, Wei YQ. Synergistic antitumor effect of CXCL10 with hyperthermia. *J CANCER RES CLIN*. 2008 Jun;134(6):679-87.
124. Zhou J, Ye J, Zhao X, Li A, Zhou J. JWA is required for arsenic trioxide induced apoptosis in HeLa and MCF-7 cells via reactive oxygen species and mitochondria linked signal pathway. *TOXICOL APPL PHARM*. 2008 Jul 1;230(1):33-40.
125. Yang X, Zhang Y, Zhang L, Zhang L, Mao J. Silencing alpha-fetoprotein expression induces growth arrest and apoptosis in human hepatocellular cancer cell. *Cancer Lett*. 2008 Nov 28;271(2):281-93.
126. Zhang S, Wang J, Song N, Xie J, Jiang H. Up-regulation of divalent metal transporter 1 is involved in 1-methyl-4-phenylpyridinium (MPP(+))-induced apoptosis in MES23.5 cells. *Neurobiol Aging*. 2009 Sep; 30(9):1466-76.
127. Hu Z, Pan Y, Wang J, Chen J, Li J, Ren L. Meso-tetra (carboxyphenyl) porphyrin (TCPP) nanoparticles were internalized by SW480 cells by a clathrin-mediated endocytosis pathway to induce high photocytotoxicity. *Biomed Pharmacother*. 2009 Feb;63(2):155-64.
128. Li ZX, Ouyang KQ, Jiang X, Wang D, Hu Y. Curcumin induces apoptosis and inhibits growth of human Burkitt's lymphoma in xenograft mouse model. *Mol Cells*. 2009 Mar;27(3):283-9.
129. Gong Y, Wu J, Huang Y, Shen S, Han X. Nonylphenol induces apoptosis in rat testicular Sertoli cells via endoplasmic reticulum stress. *Toxicol Lett*. 2009 Apr 25;186(2):84-95.
130. Zhang SP, Zhou YJ, Liu Y, Cai YQ. Effect of liquiritigenin, a flavanone existed from *Radix glycyrrhizae* on pro-apoptotic in SMMC-7721 cells. *Food Chem Toxicol*. 2009 Apr;47(4):693-701.
131. Guo CJ, Pan Q, Li DG, Sun H, Liu BW. miR-15b and miR-16 are implicated in activation of the rat hepatic stellate cell: An essential role for apoptosis. *J Hepatol*. 2009 Apr;50(4):766-78.
132. Zeng X, Nan F, Liang C, Song J, Wang Q, Vlak JM, Chen X. Functional analysis of the *Autographa californica* nucleopolyhedrovirus IAP1 and IAP2. *SCI CHINA LIFE SCI*. 2009 Aug;52(8):761-70.
133. Zhang PY, Zhang WG, He AL, Wang JL, Li WB. Identification and functional characterization of the novel acute monocytic leukemia associated antigen MLAA-34. *CANCER IMMUNOL IMMUN*. 2009 Feb;58(2):281-90.
134. Li G, Shi H, Huang H, Zhang Y, Wu K, Luo J, Sun Y, Lu J, L. Benovic J and Zhou N. Internalization of the human nicotinic acid receptor GPR109A is regulated by Gi, GRK2, and arrestin3. *J BIOL CHEM*. 2010 Jul 16;285(29):22605-18.
135. Qian J, Jiang F, Wang B, Yu Y, Zhang X, Yin Z, Liu C. Ophiopogonin D prevents H2O2-induced injury in primary human umbilical vein endothelial cells. *J Ethnopharmacol*. 2010 Mar 24;128(2):438-45.
136. Chen X, Tang W, Liu S, Yu L, Chen Z. Thioredoxin-1 phosphorylated at T100 is needed for its anti-apoptotic activity in HepG2 cancer cells. *Life Sci*. 2010 Aug 14;87(7-8):254-60.
137. Ma J, Lu HY, Xia YK, Dong HB, Gu AH, Li ZY, Li Z, Chen AM, Wang XR, Wang SL. BCL2 Ala43Thr is a functional variant associated with protection against azoospermia in a Han-Chinese population. *Biol Reprod*. 2010 Oct;83(4):656-62.
138. Liu JT, Guo X, Ma WJ, Zhang YG, Xu P, Yao JF, Bai YD. Mitochondrial function is altered in articular chondrocytes of an endemic osteoarthritis, Kashin-Beck disease. *OSTEOARTHR CARTILAGE*. 2010 Sep;18(9):1218-26.
139. Zhu W, Chang Y, Wu C, Han Q, Pei R, Lu M, Chen X. The wild-type hepatitis C virus core inhibits initiation of antigen-specific T- and B-cell immuneresponses in BALB/c mice. *Clin Vaccine Immunol*. 2010 Jul;17(7):1139-47.
140. Wang J, Han X, Yang H, Lu L, Wu Y, Liu X, Guo R, Zhang Y, Zhang Y, Li Q. A novel RGD-toxin protein, Lj-RGD3, from the buccal gland secretion of *Lampetra japonica* impacts diverse biological activities. *Biochimie*. 2010 Oct;92(10):1387-96.
141. Li K, Wang Y, Bai H, Wang Q, Song J, Zhou Y, Wu C, Chen X. The putative pocket protein binding site of *Autographa californica* nucleopolyhedrovirus BV/ODV-C42 is required for virus-induced nuclear actin polymerization. *J Virol*. 2010 Aug;84(15):7857-68.

142. Ren J, Zhu D, Liu M, Sun Y, Tian L. Downregulation of miR-21 modulates Ras expression to promote apoptosis and suppress invasion of Laryngeal squamous cell carcinoma. *Eur J Cancer*. 2010 Dec;46(18):3409-16.
143. Wang F, Ding W, Wang J, Jing R, Wang X, Cong H, Wang Y, Ju S, Wang H. Identification of microRNA-target interaction in APRIL-knockdown colorectal cancer cells. *Cancer Gene Ther*. 2011 Jul;18(7):500-9.
144. Li DL, Liu JJ, Liu BH, Hu H, Sun L, Miao Y, Xu HF, Yu XJ, Ma X, Ren J, Zang WJ. Acetylcholine inhibits hypoxia-induced tumor necrosis factor- α production via regulation of MAPKs phosphorylation in cardiomyocytes. *J Cell Physiol*. 2011 Apr;226(4):1052-9.
145. Jiang QH, Liu L, Shen JW, Peel S, Yang GL, Zhao SF, He FM. Influence of multilayer rhBMP-2 DNA coating on the proliferation and differentiation of MC3T3-E1 cells seeded on roughed titanium surface. *J Biomed Mater Res A*. 2012 Oct;100(10):2766-74.
146. He D, Ma X, Chen Y, Cai Y, Ru X, Bruce IC, Xia Q, Shi G, Jin J. Luteolin inhibits pyrogallol-induced apoptosis through the extracellular signal-regulated kinase signaling pathway. *FEBS J*. 2012 May;279(10):1834-43.
147. Shi W, Nie D, Jin G, Chen W, Xia L, Wu X, Su X, Xu X, Ni L, Zhang X, Zhang X, Chen J. BDNF blended chitosan scaffolds for human umbilical cord MSC transplants in traumatic brain injury therapy. *Biomaterials*. 2012 Apr;33(11):3119-26.
148. Song J, Wang M, Huang H, Luo X, Deng F, Wang H, Hu Z. Functional studies of per os infectivity factor 3 of *Helicoverpa armigera* nucleopolyhedrovirus. *J Gen Virol*. 2012 Feb;93(Pt 2):374-82.
149. Wu C, Deng W, Deng L, Cao L, Qin B, Li S, Wang Y, Pei R, Yang D, Lu M, Chen X. Amino acid substitutions at positions 122 and 145 of hepatitis B virus surface antigen (HBsAg) determine the antigenicity and immunogenicity of HBsAg and influence in vivo HBsAg clearance. *J Virol*. 2012 Apr;86(8):4658-69. 1.
150. Yuan XH, Lu CL, Yao N, An LS, Yang BQ, Zhang CL, Ma X. Arsenic induced progesterone production in a caspase-3-dependent manner and changed redox status in preovulatory granulosa cells. *J Cell Physiol*. 2012 Jan;227(1):194-203.
151. Tang W, Zhang Y, Qian C, Yuan Z. Induction and mechanism of apoptosis by hydroxycamptothecin in human Tenon's capsule fibroblasts. *INVEST OPHTH VIS SCI*. 2012 Jul 24;53(8):4874-80.
152. Zhang L, Ruan J, Yan L, Li W, Wu Y, Tao L, Zhang F, Zheng S, Wang A, Lu Y. Xanthatin induces cell cycle arrest at G2/M checkpoint and apoptosis via disrupting NF- κ B pathway in A549 non-small-cell lung cancer cells. *Molecules*. 2012 Mar 26;17(4):3736-50.
153. Jiang C, Zhang S, Liu H, Zeng Q, Xia T, Chen Y, Kuang G, Zhao G, Wu X, Zhang X, Wang A. The role of the IRE1 pathway in PBDE-47-induced toxicity in human neuroblastoma SH-SY5Y cells in vitro. *Toxicol Lett*. 2012 Jun 20;211(3):325-33.
154. Li XJ, Zhu CD, Yu W, Wang P, Chen FF, Xia XY, Luo B. Overexpression of Id3 induces apoptosis of A549 human lung adenocarcinoma cells. *CELL PROLIFERAT*. 2012 Feb;45(1):1-8.
155. Zhou P, Li H, Wang H, Wang LF, Shi Z. Bat severe acute respiratory syndrome-like coronavirus ORF3b homologues display different interferon antagonist activities. *J Gen Virol*. 2012 Feb;93(Pt 2):275-81.
156. Liu M, Yang S, Jin L, Hu D, Wu Z, Yang S. Chemical Constituents of the Ethyl Acetate Extract of *Belamcanda chinensis* (L.) DC Roots and Their Antitumor Activities. *Molecules*. 2012 May 24;17(5):6156-69.
157. Wang PH, Liang JP, Gu ZH, Wan DH, Weng SP, Yu XQ, He JG. Molecular cloning, characterization and expression analysis of two novel Toll (LvToll2 and LvToll3) and three putative Spätzle-like Toll ligands (LvSpz1-3) from *Litopenaeus vannamei*. *Dev Comp Immunol*. 2012 Feb;36(2):359-71.
158. Wang PH, Wan DH, Pang LR, Gu ZH, Qiu W, Weng SP, Yu XQ, He JG. Molecular cloning, characterization and expression analysis of the tumor necrosis factor (TNF) superfamily gene, TNF receptor superfamily gene and lipopolysaccharide-induced TNF- α factor (LITAF) gene from *Litopenaeus vannamei*. *Dev Comp Immunol*. 2012 Jan;36(1):39-50.
159. Chen YH, Zhao L, Jia XT, Li XY, Li CZ, Yan H, Weng SP, He JG. Isolation and characterization of cDNAs encoding Ars2 and Pasha homologues, two components of the RNA interference pathway in *Litopenaeus vannamei*. *FISH SHELLFISH IMMUN*. 2012 Feb;32(2):373-80.
160. Ye Y, Li Z, Xing D. Nitric oxide promotes MPK6-mediated caspase-3-like activation in cadmium-induced Arabidopsis thaliana programmed cell death. *Plant Cell Environ*. 2013 Jan;36(1):1-15.
161. Yu W, Sheng M, Xu R, Yu J, Cui K, Tong J, Shi L, Ren H, Du H. Berberine protects human renal proximal tubular cells from hypoxia/reoxygenation injury via inhibiting endoplasmic reticulum and mitochondrial stress pathways. *J Transl Med*. 2013 Jan 29;11:24.
162. Tang XP, Tang GD, Fang CY, Liang ZH, Zhang LY. Effects of ginsenoside Rh2 on growth and migration of pancreatic cancer cells. *WORLD J GASTROENTERO*. 2013 Mar 14;19(10):1582-92.
163. Yang S, Zhao Q, Xiang H, Liu M, Zhang Q, Xue W, Song B, Yang S. Antiproliferative activity and apoptosis-inducing mechanism of constituents from *Toona sinensis* on human cancer cells. *CANCER CELL INT*. 2013 Feb 9;13(1):12.
164. Yang YH, Chen K, Li B, Chen JW, Zheng XF, Wang YR, Jiang SD, Jiang LS. Estradiol inhibits osteoblast apoptosis via promotion of autophagy through the ER-ERK-mTOR pathway. *Apoptosis*. 2013 Nov;18(11):1363-75.
165. Li RL, Huang JJ, Shi YQ, Hu A, Lu ZY, Weng L, Wang SQ, Han YP, Zhang L, Hao CN, Duan JL. Pulsed electromagnetic field improves postnatal neovascularization in response to hindlimb ischemia. *Am J Transl Res*. 2015 Mar 15;7(3):430-44.
166. Fu X, Liu Y, Zhuang C, Liu L, Cai Z, Huang W. Synthetic artificial microRNAs targeting UCA1-MALAT1 or c-Myc inhibit malignant phenotypes of bladder cancer cells T24 and 5637. *Mol Biosyst*. 2015 May;11(5):1285-9.
167. Lu J, Cao Y, Cheng K, Xu B, Wang T, Yang Q, Yang Q, Feng X, Xia Q. Berberine regulates neurite outgrowth through AMPK-dependent pathways by lowering energy status. *Exp Cell Res*. 2015 Jun 10;334(2):194-206.
168. Wu D, Hu Q, Liu X, Pan L, Xiong Q, Zhu YZ. Hydrogen sulfide protects against apoptosis under oxidative stress through SIRT1 pathway in H9c2 cardiomyocytes. *NITRIC OXIDE-BIOL CH*. 2015 Apr 30;46:204-12.
169. Wu T, Wang S, Wu J, Lin Z, Sui X, Xu X, Shimizu N, Chen B, Wang X. Icaritin induces lytic cytotoxicity in extranodal NK/T-cell lymphoma. *J EXP CLIN CANC RES*. 2015 Feb 15;34:17.
170. Peng X, Zhuang DD, Guo QS. Induction of S phase arrest and apoptosis by ethyl acetate extract from *Tetrastigma hemsleyanum* in human hepatoma HepG2 cells. *TUMOR BIOL*. 2015 Apr;36(4):2541-50.
171. Dong M, Lu Y, Zou Z, Yang H. Monoacylglycerol lipase inhibitor protects primary cultured neurons against homocysteine-induced impairments in rat caudate nucleus through COX-2 signaling. *Life Sci*. 2015 Oct 1;138:64-71.
172. Xu L, Liu JH, Zhang J, Zhang N, Wang ZH. Blockade of autophagy aggravates endoplasmic reticulum stress and improves Paclitaxel cytotoxicity in human cervical cancer cells. *Cancer Res Treat*. 2015 Apr;47(2):313-21.
173. Yan L, Wang C, Lin B, Liu J, Liu D, Hou R, Wang Y, Gao L, Zhang S, Iwamori M. Lewis y enhances CAM-DR in ovarian cancer cells by activating the FAK signaling pathway and upregulating Bcl-2/Bcl-XL expression. *Biochimie*. 2015 Jun;113:17-25.
174. Zhuang CL, Fu X, Liu L, Liu YC, Huang WR, Cai ZM. Synthetic miRNA sponges driven by mutant hTERT promoter selectively inhibit the progression of bladder cancer. *TUMOR BIOL*. 2015 Jul;36(7):5157-63.
175. Jia G, Wang Q, Wang R, Deng D, Xue L, Shao N, Zhang Y, Xia X, Zhi F, Yang Y. Tubeimoside-1 induces glioma apoptosis through regulation of Bax/Bcl-2 and the ROS/Cytochrome C/Caspase-3 pathway. *ONCOTARGETS THER*. 2015 Jan 30;8:303-11.
176. Nie GH, Luo L, Duan HF, Li XQ, Yin MJ, Li Z, Zhang W. GALNT7, a target of miR-494, participates in the oncogenesis of nasopharyngeal carcinoma. *TUMOR BIOL*. 2016 Apr;37(4):4559-67.
177. Jiang Q, Liu Y, Duan D, Gou M, Wang H, Wang J, Li Q, Xiao R. Anti-angiogenic activities of CRBGP from buccal glands of lampreys (*Lampetra japonica*). *Biochimie*. April 2016 Apr;123:7-19.
178. Han H, Yang J, Fei S, Liu Z, Zhu S, Dong Q, Gao Z, Wang S, Zhang J. Protective effect of carbachol postconditioning on hypoxia/reoxygenation-induced injury in human

- p>gastric epithelial cells.
- Life Sci.*
- 2016 Jan;144:234–42.
179. Jiang Q, Liu Y, Duan D, Gou M, Wang H, Wang J, Li Q, Xiao R. Anti-angiogenic activities of CRBGP from buccal glands of lampreys (*Lampetra japonica*). *Biochimie.* 2016 Apr;123:7-19.
 180. Jiang Q, Liu Y, Duan D, Gou M, Wang H, Wang J, Li Q, Xiao R. Anti-angiogenic activities of CRBGP from buccal glands of lampreys (*Lampetra japonica*). *Biochimie.* 2016 Apr;123:7-19.
 181. Wang W, Long L, Wang L, Tan C, Fei X, Chen L, Huang Q, Liang Z. Knockdown of Cathepsin L promotes radiosensitivity of glioma stem cells both in vivo and in vitro. *Cancer Lett.* 2016 Feb 28;371(2):274-84.
 182. Wu C, Hu Y, Fan L, Wang H, Sun Z, Deng S, Liu Y, Hu C. Ctenopharyngodon idella PKZ facilitates cell apoptosis through phosphorylating eIF2 α . *Mol Immunol.* 2016 Jan;69:13-23.
 183. Li J, Li J, Aipire A, Gao L, Huo S, Luo J, Zhang F. Phenylethanoid Glycosides from *Cistanche tubulosa* Inhibits the Growth of B16-F10 Cells both in Vitro and in Vivo by Induction of Apoptosis via Mitochondria-dependent Pathway. *J Cancer.* 2016 Sep 12;7(13):1877-87.
 184. Chen L, Wang L, Yan J, Ma C, Lu J, Chen G, Chen S, Su F, Wang W, Su X. 131I-labeled monoclonal antibody targeting neuropilin receptor type-2 for tumor SPECT imaging. *Int J Oncol.* 2017 Feb;50(2):649-659.
 185. Jiang Q, Li Q, Han J, Gou M, Zheng Y, Li B, Xiao R, Wang J. rLj-RGD3 induces apoptosis via the mitochondrial-dependent pathway and inhibits adhesion, migration and invasion of human HeyA8 cells via FAK pathway. *J PATHOL.* 2017 Mar;96:652-668.
 186. Chengcheng Gai, Mengyu Yu, Zihaoan Li, Yonghong Wang, Dejun Ding, Jie Zheng, Shijun Lv, Weifen Zhang, Wentong Li. Acetaminophen sensitizing erastin-induced ferroptosis via modulation of Nrf2/heme oxygenase-1 signaling pathway in non-small-cell lung cancer. *J Cell Physiol.* doi: 10.1002/jcp.29221.
 187. Ya-Jie Xiong, Yun-Zhen Song, Ying Zhu, Wen-Qing Zuo, Yi-Fan Zhao, Xiao Shen, Wen-Juan Wang, Ya-Li Liu, Jun-Chao Wu, Zhong-Qin Liang. Neuroprotective effects of olanzapine against rotenone-induced toxicity in PC12 cells. *Acta Pharmacol Sin.* doi: 10.1038/s41401-020-0378-6.
 188. Wangkai Xie, Chao Chen, Zheng Han, Jingjing Huang, Xin Liu, Hongjun Chen, Teming Zhang, Sian Chen, Chenbin Chen, Mingdong Lu, Xian Shen, Xiangyang Xue. CD2AP inhibits metastasis in gastric cancer by promoting cellular adhesion and cytoskeleton assembly. *MOL CARCINOGEN.* doi: 10.1002/mc.23158.
 189. Yating Wen, Hongliang Chen, Fangzhen Luo, Lanhua Zhao, Mingyi Shu, Shengmei Su, Yuqi Zhao, Qiulin Huang, Zhongyu Li. Chlamydia trachomatis Plasmid Protein pORF5 Up-Regulates ZFAS1 to Promote Host Cell Survival via MAPK/p38 Pathway. *Front Microbiol.* doi: 10.3389/fmicb.2020.593295.
 190. Xiaoyu Dong, Zili He, Guangheng Xiang, Leyi Cai, Zhenjiang Xu, Cong Mao, Yongzeng Feng. Paeoniflorin promotes angiogenesis and tissue regeneration in a full-thickness cutaneous wound model through the PI3K/AKT pathway. *J Cell Physiol.* doi: 10.1002/jcp.29808.
 191. Peitao Zhou, Qianqin Li, Shuwen Su, Wenhui Dong, Suyu Zong, Qiong Ma, Xi Yang, Daming Zuo, Shaoyi Zheng, Xianzhong Meng, Dingli Xu, Qingchun Zeng. Interleukin 37 Suppresses M1 Macrophage Polarization Through Inhibition of the Notch1 and Nuclear Factor Kappa B Pathways. *Front Cell Dev Biol.* doi: 10.3389/fcell.2020.00056.
 192. Miao Sun, Zhenhui Lu, Peian Cai, Li Zheng, Jinmin Zhao. Salidroside enhances proliferation and maintains phenotype of articular chondrocytes for autologous chondrocyte implantation (ACI) via TGF- β /Smad3 Signal. *Biomed Pharmacother.* doi: 10.1016/j.biopha.2019.109388.
 193. Lili Deng, Jun Fan, Yuedi Ding, Xue Yang, Biao Huang, Zhigang Hu. Target Therapy With Vaccinia Virus Harboring IL-24 For Human Breast Cancer. *J Cancer.* doi: 10.7150/jca.37590.
 194. Yujing Zhang, Huanfeng Bian, Yu Ma, Yuanyuan Xiao, Fang Xiao. Cr(VI)-induced overactive mitophagy contributes to mitochondrial loss and cytotoxicity in L02 hepatocytes. *Biochem J.* doi: 10.1042/BCJ20200262.
 195. Yu Li, Rong Wang, Lian Xue, Yilin Yang, Feng Zhi. Astilbin protects against cerebral ischaemia/reperfusion injury by inhibiting cellular apoptosis and ROS-NLRP3 inflammasome axis activation. *Int Immunopharmacol.* doi: 10.1016/j.intimp.2020.106571.
 196. Shengdong Wang, Hengyuan Li, Shi Chen, Zenan Wang, Yuhong Yao, Tao Chen, Zhaoming Ye, Peng Lin. Andrographolide induces apoptosis in human osteosarcoma cells via the ROS/JNK pathway. *Int J Oncol.* doi: 10.3892/ijo.2020.5032.
 197. Ke Xu, Jun Wang, Hongyu Liu, Jing Zhao, Wenfa Lu. Melatonin Promotes the Proliferation of Chicken Sertoli Cells by Activating the ERK/Inhibin Alpha Subunit Signaling Pathway. *Molecules.* doi: 10.3390/molecules25051230.
 198. Xiao Zhu, Ziping Zhao, Canjun Zeng, Bo Chen, Haifeng Huang, Youming Chen, Quan Zhou, Li Yang, Jicheng Lv, Jing Zhang, Daoyan Pan, Jie Shen, Gustavo Duque, Daozhang Cai. HNGF6A Inhibits Oxidative Stress-Induced MC3T3-E1 Cell Apoptosis and Osteoblast Phenotype Inhibition by Targeting Circ_0001843/miR-214 Pathway. *CALCIFIED TISSUE INT.* doi: 10.1007/s00223-020-00660-z.
 199. Xing Fang, Tingfei Tan, BeiBei Gao, YingLi Zhao, TingTing Liu, Quan Xia. Germacrone Regulates HBXIP-Mediated Cell Cycle, Apoptosis and Promotes the Formation of Autophagosomes to Inhibit the Proliferation of Gastric Cancer Cells. *Front Oncol.* doi: 10.3389/fonc.2020.537322.
 200. Xu Jia, Ziren Luo, Ying Gao, Hua Liu, Xinghai Liu, Wenli Mai, Hong Liu, Qian Zheng. EGCG Upregulates UCP 3 Levels to Protect MIN 6 Pancreatic Islet Cells from Interleukin-1 β -Induced Apoptosis. *DRUG DES DEV THER.* doi: 10.2147/DDDT.S270345.
 201. Dan Luo, Yuanjiu Miao, Xianliang Ke, Zhongyuan Tan, Chun Hu, Penghui Li, Ting Wang, Yuan Zhang, Jianhong Sun, Yan Liu, Hanzhong Wang, Zhenhua Zheng. Baculovirus Surface Display of Zika Virus Envelope Protein Protects against Virus Challenge in Mouse Model. *Virol Sin.* doi: 10.1007/s12250-020-00238-x.
 202. Guizhi Jia, Zhijun Meng, Caihong Liu, Xinliang Ma, Jia Gao, Jing Liu, Rui Guo, Zheyi Yan, Theodore Christopher, Bernard Lopez, Wenxia Liu, Hongliang Dai, Wayne Bond Lau, Xiangying Jiao, Jianli Zhao, Zi-Xuan Wang, Jimin Cao, Yajing Wang. Nicotine induces cardiac toxicity through blocking mitophagic clearance in young adult rat. *Life Sci.* doi: 10.1016/j.lfs.2020.118084.
 203. Minyi Tian, Xianghuan Wu, Tingya Lu, Xiaoge Zhao, Feng Wei, Guodong Deng, Ying Zhou. Phytochemical Analysis, Antioxidant, Antibacterial, Cytotoxic, and Enzyme Inhibitory Activities of *Hedychium flavum* Rhizome. *Front Pharmacol.* doi: 10.3389/fphar.2020.572659.
 204. Israa Assani, Ying Du, Chun-Gu Wang, Lei Chen, Pei-Lei Hou, Shi-Feng Zhao, Yan Feng, Ling-Fei Liu, Bo Sun, Yan Li, Zhi-Xin Liao, Ri-Zhen Huang. Anti-proliferative effects of diterpenoids from *Sagittaria trifolia* L. tubers on colon cancer cells by targeting the NF- κ B pathway. *Food Funct.* doi: 10.1039/d0fo00228c.
 205. Ying Shi, Qing Li, Feng Sun, Chenyue Zhu, Sainan Ma, Di Qin, Qingwei Li, Tiesong Li. Lamprey PHB2 maintains mitochondrial stability by translocation to the mitochondria under oxidative stress. *FISH SHELLFISH IMMUN.* doi: 10.1016/j.fsi.2020.06.037.
 206. Juncheng Liu, Fang Wang, Zebin Weng, Xiaonan Sui, Yong Fang, Xiaozhi Tang, Xinchun Shen. Soybean-derived miRNAs specifically inhibit proliferation and stimulate apoptosis of human colonic Caco-2 cancer cells but not normal mucosal cells in culture. *Genomics.* doi: 10.1016/j.ygeno.2020.05.011.
 207. Rui-Rui Zhang, Na-Na Meng, Chao Liu, Kui-Lin Li, Mu-Xuan Wang, Zhi-Bo Lv, Shu-Ya Chen, Xu Guo, Xin-Kun Wang, Qing Wang, Jin-Yue Sun. PDB-1 from *Potentilla discolor* Bunge induces apoptosis and autophagy by downregulating the PI3K/Akt/mTOR signaling pathway in A549 cells. *Biomed Pharmacother.* doi: 10.1016/j.biopha.2020.110378.
 208. Xiangxun Chen, Mengxi Zhou, Wenjie Fan, Mingwei Yang, Lin Yang. Combination of Sodium Cantharidinate with Cisplatin Synergistically Hampers Growth of Cervical Cancer. *DRUG DES DEV THER.* doi: 10.2147/DDDT.S282777.
 209. Lili Hou, Xin Yuan, Guannan Le, Ziman Lin, Fang Gan, Haolei Li, Kehe Huang. Fumonisin B1 induces nephrotoxicity via autophagy mediated by mTORC1 instead of mTORC2 in human renal tubule epithelial cells. *Food Chem Toxicol.* doi: 10.1016/j.fct.2021.112037.
 210. Xuan Zhang, Ying Dong, Wan-Chen Li, Bi-Xi Tang, Jia Li, Yi Zang. Roxithromycin

- attenuates bleomycin-induced pulmonary fibrosis by targeting senescent cells. *Acta Pharmacol Sin*. doi: 10.1038/s41401-021-00618-3.
211. Zhongyuan Bao, Yinlong Liu, Binglin Chen, Zong Miao, Yiming Tu, Chong Li, Honglu Chao, Yangfan Ye, Xiupeng Xu, Guangchi Sun, Pengzhan Zhao, Ning Liu, Yan Liu, Xiaoming Wang, Sin Man Lam, Valerian E Kagan, Hülya Bayı r, Jing Ji. Prokineticin-2 prevents neuronal cell deaths in a model of traumatic brain injury. *Nat Commun*. doi: 10.1038/s41467-021-24469-y.
212. Jia-Cen Sun, Xing Tan, Lian-Jie Ge, Ming-Juan Xu, Wei-Zhong Wang. The Release of Nitric Oxide Is Involved in the β -Arrestin1-Induced Antihypertensive Effect in the Rostral Ventrolateral Medulla. *Front Physiol*. doi: 10.3389/fphys.2021.694135.
213. Yu Guo, Lisu Huang, Guangshun Zhang, Yanfeng Yao, He Zhou, Shu Shen, Bingqing Shen, Bo Li, Xin Li, Qian Zhang, Mingjie Chen, Da Chen, Jia Wu, Dan Fu, Xinxin Zeng, Mingfang Feng, Chunjiang Pi, Yuan Wang, Xingdong Zhou, Minmin Lu, Yarong Li, Yaohui Fang, Yun-Yueh Lu, Xue Hu, Shanshan Wang, Wanju Zhang, Ge Gao, Francisco Adrian, Qisheng Wang, Feng Yu, Yun Peng, Alexander G Gabibov, Juan Min, Yuhui Wang, Heyu Huang, Alexey Stepanov, Wei Zhang, Yan Cai, Junwei Liu, Zhiming Yuan, Chen Zhang, Zhiyong Lou, Fei Deng, Hongkai Zhang, Chao Shan, Liang Schweizer, Kun Sun, Zihe Rao. A SARS-CoV-2 neutralizing antibody with extensive Spike binding coverage and modified for optimal therapeutic outcomes. *Nat Commun*. doi: 10.1038/s41467-021-22926-2.
214. You-Hong Wang, Zhen Guo, Liang An, Yong Zhou, Heng Xu, Jing Xiong, Zhao-Qian Liu, Xiao-Ping Chen, Hong-Hao Zhou, Xiong Li, Tao Liu, Wei-Hua Huang, Wei Zhang. LINC-PINT impedes DNA repair and enhances radiotherapeutic response by targeting DNA-PKcs in nasopharyngeal cancer. *Cell Death Dis*. doi: 10.1038/s41419-021-03728-2.
215. Cuixiang Xu, Xiaoyan Huang, Xiaohua Lei, Zhankui Jin, Min Wu, Xiao Liu, Yubin Huang, Xiangrong Zhao, Yue Xiong, Jingying Sun, Xianglong Duan, Jianhua Wang. Costunolide-Induced Apoptosis via Promoting the Reactive Oxygen Species and Inhibiting AKT/GSK3 β Pathway and Activating Autophagy in Gastric Cancer. *Front Cell Dev Biol*. doi: 10.3389/fcell.2021.722734.
216. Yufeng Zhang, Huaxin Deng, Zhiqiang Yang, Zhe Chen, Sheng Zhang, Yufan Zhu, Min Yang, Houcheng Zhong, Fuling Zhou, Yuanlong Xie, Lin Cai. Treatment of Radiation Bone Injury with Transplanted hUCB-MSCs via Wnt/ β -Catenin. *Stem Cells Int*. doi: 10.1155/2021/5660927.
217. Wenhui Chu, Gaowei Hu, Lin Peng, Wei Zhang, Zhe Ma. The use of a novel deer antler decellularized cartilage-derived matrix scaffold for repair of osteochondral defects. *J Biol Eng*. doi: 10.1186/s13036-021-00274-5.
218. Chao Zhang, Lian-Jun He, Yi-Bao Zhu, Qing-Zhu Fan, Dong-Dong Miao, Sheng-Peng Zhang, Wen-Ying Zhao, Xiao-Ping Liu. Piperlongumine Inhibits Akt Phosphorylation to Reverse Resistance to Cisplatin in Human Non-Small Cell Lung Cancer Cells via ROS Regulation. *Front Pharmacol*. doi: 10.3389/fphar.2019.01178.
219. Yang Wang, Dejun Bao, Yongfei Dong, Xiangpin Wei, Jian Yu, Chaoshi Niu. α -Lipoic Acid-Plus Ameliorates Endothelial Injury by Inhibiting the Apoptosis Pathway Mediated by Intralysosomal Cathepsins in an In Vivo and In Vitro Endothelial Injury Model. *Oxid Med Cell Longev*. doi: 10.1155/2022/8979904.
220. Chuan-Feng Tang, Cong-Ying Wang, Jun-Han Wang, Qiao-Na Wang, Shen-Jie Li, Hai-Ou Wang, Feng Zhou, Jian-Mei Li. Short-Chain Fatty Acids Ameliorate Depressive-like Behaviors of High Fructose-Fed Mice by Rescuing Hippocampal Neurogenesis Decline and Blood-Brain Barrier Damage. *Nutrients*. doi: 10.3390/nu14091882.
221. Liwei Ji, Qinqin He, Yinghai Liu, Yan Deng, Maodi Xie, Kaiteng Luo, Xintian Cai, Yunxia Zuo, Wei Wu, Qian Li, Ronghua Zhou, Tao Li. Ketone Body β -Hydroxybutyrate Prevents Myocardial Oxidative Stress in Septic Cardiomyopathy. *Oxid Med Cell Longev*. doi: 10.1155/2022/2513837.
222. Juan Xia, Jun-Nan Hu, Ruo-Bing Zhang, Wei Liu, Hao Zhang, Zi Wang, Shuang Jiang, Ying-Ping Wang, Wei Li. Icarin exhibits protective effects on cisplatin-induced cardiotoxicity via ROS-mediated oxidative stress injury in vivo and in vitro. *Phytomedicine*. doi: 10.1016/j.phymed.2022.154331.
- 注: 更多使用本产品的文献请参考产品网页。

Version 2024.09.18