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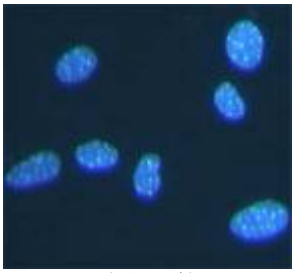
细胞凋亡-Hoechst染色试剂盒

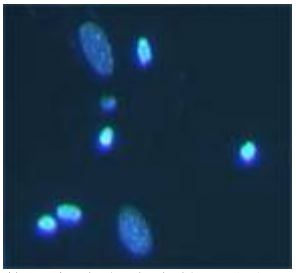
产品编号	产品名称	包装
C0003	细胞凋亡－Hoechst染色试剂盒	100次

产品简介：

- 碧云天生产的细胞凋亡－Hoechst染色试剂盒(Hoechst Staining Kit)为您提供了一种经典而又快速简便的细胞凋亡检测方法。细胞发生凋亡时，染色质会固缩。所以Hoechst 33258染色后，在荧光显微镜下观察，正常细胞的细胞核呈正常的蓝色，而凋亡细胞的细胞核会呈致密浓染，或呈碎块状致密浓染，颜色有些发白。典型的Hoechst 33258染色后的细胞图片参考下图。



正常细胞核



刺激后有致密浓染的凋亡细胞

- 只需25分钟即可完成细胞凋亡检测的整个过程。
- 本试剂盒提供了固定液，染色液，及抗荧光淬灭封片液。
- 本试剂盒对贴壁细胞，悬浮细胞和组织切片均适用。
- 足够检测100个样品。

包装清单：

产品编号	产品名称	包装
C0003-1	固定液	50ml
C0003-2	Hoechst 33258染色液	50ml
C0003-3	抗荧光淬灭封片液	5ml
—	说明书	1份

保存条件：

4ºC保存，Hoechst 33258染色液需4ºC避光保存，半年有效。

注意事项：

- 需可以观察蓝色荧光的荧光显微镜或激光共聚焦显微镜。
- 需PBS或0.9% NaCl溶液。
- 需自备盖玻片与载玻片。盖玻片与载玻片可以向碧云天订购。
- 荧光物质均易发生淬灭，染色后的样品宜避光保存。可以向碧云天选购各种型号的载玻片存储盒。
- 在使用抗淬灭封片液的情况下可以减缓淬灭，但仍宜尽量避光。
- 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. 贴壁细胞

a. 取洁净盖玻片在70%乙醇中浸泡5分钟或更长时间，无菌超净台内吹干或用无菌的PBS或0.9%NaCl等溶液洗涤三遍，再用细胞培养液洗涤一遍。将盖玻片置于六孔板内，种入细胞培养过夜，使约为50%-80%满。

b. 刺激细胞发生凋亡后，吸尽培养液，加入**0.5ml固定液，固定10分钟**或更长时间(可4ºC过夜)。

c. 去固定液，用**PBS或0.9% NaCl洗两遍，每次3分钟**，吸尽液体。洗涤时宜用摇床，或手动晃动。

d. 加入**0.5ml Hoechst 33258染色液，染色5分钟**。也宜用摇床，或手动晃动数次。

e. 去染色液，用**PBS或0.9% NaCl洗两遍，每次3分钟**，吸尽液体。洗涤时宜用摇床，或手动晃动。

f. 滴一滴抗荧光淬灭封片液于载玻片上，盖上贴有细胞的盖玻片，让细胞接触封片液，尽量避免气泡。

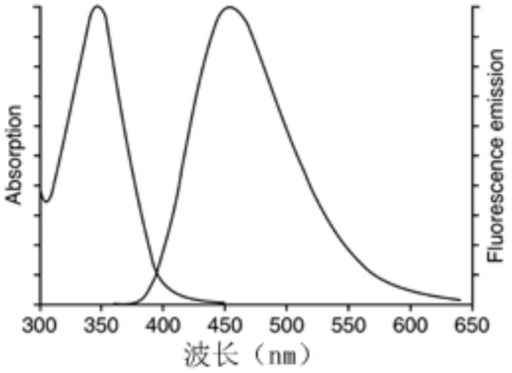
g. 荧光显微镜可检测到呈蓝色的细胞核。激发波长350nm左右，发射波长460nm左右，图谱请参考下图。

2. 悬浮细胞

a. 离心收集细胞样品于1.5ml离心管内，加入**0.5ml固定液**，缓缓悬起细胞，**固定10分钟**或更长时间(可4ºC过夜)。
b. 离心去固定液，用**PBS或0.9% NaCl洗两遍，每次3分钟**。洗涤期间手动晃动数次。
c. 离心后吸去大部分液体保留约50μl液体，再缓缓悬起细胞，滴加至载玻片上，尽量使细胞分布均匀。
d. 稍晾干，使细胞贴在载玻片上不易随液体流动。
e. 均匀滴上**0.5ml Hoechst 33258染色液，染色5分钟**。用吸水纸从边缘吸去液体，微晾干。
f. 去染色液，用**PBS或0.9% NaCl洗两遍，每次3分钟**，吸尽液体。洗涤时宜用摇床，或手动晃动。
g. 滴一滴抗荧光淬灭封片液于载玻片上，盖上一洁净的盖玻片，尽量避免气泡。
h. 荧光显微镜可检测到呈蓝色的细胞核。激发波长350nm左右，发射波长460nm左右，图谱请参考下图。

3. 组织切片

a. 常规包埋切片后，根据切片的不同类型，处理至可以用于免疫组化染色。
b. **PBS或0.9% NaCl洗两遍，每次3分钟**，吸尽液体。洗涤时宜用摇床，或手动晃动。可在六孔板中操作。
c. 加入**0.5ml Hoechst 33258染色液，染色5分钟**。也宜用摇床，或手动晃动数次。
d. 去染色液，用**PBS或0.9% NaCl洗两遍，每次3分钟**，吸尽液体。洗涤时宜用摇床，或手动晃动。
e. 小心将切片置于载玻片上，滴一滴抗淬灭封片液，盖上一洁净的盖玻片，尽量避免气泡。
f. 荧光显微镜可检测到呈蓝色的细胞核。激发波长350nm左右，发射波长460nm左右，图谱请参考右图。



Hoechst 33258 的吸收光谱和发射光谱
左侧峰为吸收光谱，右侧峰为发射光谱

使用本产品的文献：

1. Guiyun Wang and Xinming Guo..Effects of radizx astragali on the nitric oxides, free radicals and apoptosis of thymus in agingmice.Journal of Mudanjiang Medical College . 2004;25(4): 14-5.
2. Meishu Shen and Wangxi Li..Effect of angelica on apoptosis in brain cell and thymus index of aging mice.Journal of Mudanjiang Medical College . 2004;25(6): 9-10.
3. Zhu Chunlei, Zhang Chaodong and Wang Yunjie.The study of apoptosis induced by methylene blue (MB) on C6 cell and MB enhances BCNU therapy of experimental rat C6 glioma.《肿瘤》 . 2004;24(1): 21-24.
4. Xin-xin Zhao, Li-juan Zhao, Wei-guo Xiao, Jing Lu, Pin-ting Yang and Qing-hong Yu.C-myc antisense oligodexoynucleotides inhibite synoviocytes proliferation and induce synoviocytes apoptosis.Chinese Journal of Rheumatology . 2004 Feb;8(2): 67-72.
5. Wang JH, Wu Y, Ren F, Lü L, Zhao BC.Cloning and characterization of Adinbitor, a novel disintegrin from the snake venom of Agkistrodon halys brevicaudus stejneger.ACTA BIOCH BIOPH SIN . 2004 Jun;36(6):425-9
6. 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
7. Wang J, Miao J, Sheng W, Yang J.Construction of pcDNA3.0-ING4 eukaryotic expression vector and study on its function.《解剖学杂志》 . 2005;28(4):383-6.
8. Tang W, Jiang MD, Li XA.Effects of sp600125 on acetaldehydeinduced apoptosis of hepatic stellate cells and expression of Caspase-3 protein in rats.《世界华人消化杂志》 . 2005;13(18):2263-5.
9. Li X, Li G, Yu M, Yang Z, Sun J.The effect of whole body low dose radiation on apoptosis of mice leukemia cell.《潍坊医学院学报》 . 2005; 27(6):407-9.
10. Zhao ZG, Shen WL.Heat shock protein 70 antisense oligonucleotide inhibits cell growth and induces apoptosis in human gastric cancer cell line SGC-7901.WORLD J GASTROENTERO . 2005 Jan 7;11(1):73-8
11. Yao G, Yang L, Hu Y, Liang J, Liang J, Hou Y.Nonylphenol-induced thymocyte apoptosis involved caspase-3 activation and mitochondrial depolarizationMol Immunol . 2005 Mar;43(7):915-26
12. Ye J, Li A, Liu Q, Wang X, Zhou J.Inhibition of mitogen-activated protein kinase kinase enhances apoptosis induced by arsenic trioxide in human breast cancer MCF-7 cells.CLIN EXP PHARMACOL P . 2005 Dec;32(12):1042-8
13. 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
14. Yingchao Nie, Qian Wang, Changyong Liang, Minggang Fang, Zehua Yu, Xinwen Chen.Characterization of ORF2 and its encoded protein of the Helicoverpa armigera nucleopolyhedrovirus.Virus Res . 2006 Mar;116(1-2):129-35
15. Li HG, Liao AH, Ding XF, Zhou H, Xiong CL.The expression and significance of CATSPER1 in human testis and ejaculated spermatozoa.Asian J Androl . 2006 May;8(3):301-6
16. 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
17. Zhao Y, Shen S, Guo J, Chen H, Greenblatt DY, Kleeff J, Liao Q, Chen G, Friess H, Leung PS.Mitogen-activated protein kinases and chemoresistance in pancreatic cancer cells.J Surg Res . 2006 Dec;136(2):325-35
18. Li GY, Yu MM, Li XJ, Liu ZX.Apop tosis of BoneMarrow Leukemia Cells in Mice after Low Dose Radiation at Different Time.《中国辐射卫生》 . 2007 ;16(3):275-6.
19. 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):540-6
20. 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
21. Ye CL, Jin YL, Ye KH, Qin L.Effects of EGb 761 on the Cell Apoptosis Induced by H2O2 in R IN2m Beta Cells.《中药材》 . 2007 Apr;30(4):424-8.
22. Liu Y, Zhang S, Cai Y.Cytoprotective effects of selenium on cadmium-induced LLC-PK1 cells apoptosis by activating JNK pathway.Toxicol in Vitro . 2007 Jun;21(4):677-84
23. Li JL, Liu N, Chen XH, Sun M, Wang CB.Inhibition of UVA-induced apoptotic signaling pathway by polypeptide from Chlamys farreri in human HaCaT keratinocytes.RADIAT ENVIRON BIOPH . 2007 Aug;46(3):263-8
24. Bao W, Pan H, Lu M, Ni Y, Zhang R, Gong X.The apoptotic effect of Sarsasapogenin from Anemarrhena asphodeloides on HepG2 human hepatoma cellsCell Biology International . 2007 Sep;31(9):887-92
25. Ren SH, Ye CL, Jin YL, Lv YQ, Feng J.Effects of chlor ide channel blockers on H2O2 induced apoptosis in pancrea s RIN2m beta cells.《中国药理学通报》 . 2007 Sep;23(9):1202-6.
26. Bao W, Pan H, Lu M, Ni Y, Zhang R, Gong X.The apoptotic effect of sarsasapogenin from Anemarrhena asphodeloides on HepG2 human hepatoma cells.Cell Biol Int . 2007 Sep;31(9):887-92
27. Yan XB, Yang DS, Gao X, Feng J, Shi ZL, Ye Z.Caspase-8 dependent osteosarcoma cell apoptosis induced by proteasome inhibitor MG132.Cell Biol Int . 2007 Oct;31(10):1136-43
28. 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;271(2):281-93
29. 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
30. Liu XJ, Wang WC, Wang HJ, Zhang LL, Liu LQ, Wang YJ, Wang CB.A polypeptide from Chlamys farreri inhibits UVB-induced HaCaT cells apoptosis via the Apaf-1/caspase-9 and Smac/XIAP signaling pathway.Chinese Journal of Oceanology and Limnology . 2009;27(3):587-93
31. Wang H, Xu Y, Yan J, Zhao X, Sun X, Zhang Y, Guo J, Zhu C.Acteoside protects human neuroblastoma SH-SY5Y cells against beta-amyloid-induced cell injury.Brain Res . 2009 ;1283:139-47

32. 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 Jan;30(9):1466-76
33. Hou S, Zhao Z, Yan F, Chen X, Deng H, Chen X, Wang Y, Wei Y.Genetic transfer of PNAS-4 induces apoptosis and enhances sensitivity to gemcitabine in lung cancer.Cell Biol Int . 2009 Mar;33(3):276-82
34. Li WB, Feng J, Geng SM, Zhang PY, Yan XN, Hu G, Zhang CQ, Shi BJ.Induction of apoptosis by Hax-1 siRNA in melanoma cells.Cell Biol Int . 2009 Apr;33(4):548-54
35. Liu J,Zhuang QY,Zhang WZ,Wang YH,Chen XG,Peng EJ,Liu F.Role of survivin in apoptosis induced by grape seed procyanidin extract in human bladder cancer BIU87 cells.《中德临床肿瘤学杂志》 . 2009 Jul;8(7):420－5.
36. Deng T, Zhang Y.5-Aza-2'-deoxycytidine reactivates expression of RUNX3 by deletion of DNA methyltransferases leading to caspase independent apoptosis in colorectal cancer Lovo cells.Biomed Pharmacother . 2009 Aug;63(7):492-500
37. Zhang JJ, Zhang RF, Meng XK.Protective effect of pyrroloquinoline quinone against Abeta-induced neurotoxicity in human neuroblastoma SH-SY5Y cells.Neurosci Lett . 2009 Oct 30;464(3):165-9
38. Deng X, Cheng J, Zhang Y, Li N, Chen L.Effects of caloric restriction on SIRT1 expression and apoptosis of islet beta cells in type 2 diabetic rats.Acta Diabetol . 2009 Dec;47 Suppl 1:177-85
39. Zhuo L, Gong J, Yang R, Sheng Y, Zhou L, Kong X, Cao K.Inhibition of proliferation and differentiation and promotion of apoptosis by cyclin L2 in mouse embryonic carcinoma P19 cells.BIOCHEM BIOPH RES CO . 2009 Dec 18;390(3):451-7
40. Bao XQ, Liu GT.Bicyclol protects HepG2 cells against D-galactosamine-induced apoptosis through inducing heat shock protein 27 and mitochondria associated pathway.Acta Pharmacol Sin . 2010 Feb;31(2):219-26
41. Wang X, Xu J, Ju S, Ni H, Zhu J, Wang H.Livin gene plays a role in drug resistance of colon cancer cells.Clin Biochem . 2010 Feb;43(7-8):655-60
42. Luo S, Chen P, Luo ZC, Zhang P, Sun P, Shi W, Li ZY, Zhang XL, Wang LQ, Chen X, Wei YQ, Wen YJ.Combination of vesicular stomatitis virus matrix protein gene therapy with low-dose cisplatinimproves therapeutic efficacy against murine melonoma.Cancer Sci . 2010 May;101(5):1219-25
43. Zhong N, Chen HK, Zhao QL, Wang HW, Yu X, Ashley M Eaves, Sheng WH, Miao JC,Cui FM, Wang JZ.Effects of griseofulvin on apoptosis through caspase-3- and caspase-9-dependent pathways in K562 leukemia cells: An in vitro studyCTR . 2010 Dec;71(6):384-97.
44. Ma K, Liu Y, Zhu Q, Liu CH, Duan JL, Tan BK, Zhu YZ.H2S donor, S-propargyl-cysteine, increases CSE in SGC-7901 and cancer-induced mice:evidencefor a novel anti-cancer effect of endogenous H2S?PLoS One . 2011;6(6):e20525
45. Liu Y, Cui B, Qiao Y, Zhang Y, Tian Y, Jiang J, Ma D, Kong B.Phosphoinositide-3-kinase inhibition enhances radiosensitization of cervical cancer in vivo.Int J Gynecol Cancer . 2011 Jan;21(1):100-5
46. Wu LX, Gu XF, Zhu YC, Zhu YZ.Protective effects of novel single compound, Hirsutine on hypoxic neonatal rat cardiomyocytes.Eur J Pharmacol . 2011 Jan;650(1):290-7
47. Li J, Cheng Y, Qu W, Sun Y, Wang Z, Wang H, Tian B.Fisetin,a dietary flavonoid, induces cell cycle arrest and apoptosis through activation of p53 andinhibition of NF-kappa B pathways in bladder cancer cells.BASIC CLIN PHARMACOL . 2011 Feb;108(2):84-93
48. Guo LL, Pan Y, Zhu XJ, Tan LY, Xu QJ, Jin HM.Conventional, but not high-purity, dialysate-induced monocyte apoptosis is mediated by activation of PKC-delta and inflammatory factors release.NEPHROL DIAL TRANSPL . 2011 May;26(5):1516-22
49. Chen Z, Liu S, Sumida T, Sun S, Wei Y, Liu M, Dong Z, Zhang F, Hamakawa H, Wei F.Silencing Id-1 with RNA Interference Inhibits Adenoid Cystic Carcinoma in Mice.J Surg Res . 2011 Jul;169(1):57-66
50. Lu Yan, Shu Zhang, Chao Zeng, Yu Hua Xue, Zhong Lou Zhou, Fan Lu, Hao Chen, Jia Qu,Li Ming Dai, Yong Liu.Cytotoxicity of Single-Walled Carbon Nanotubes with Human Ocular Cells.ADV MATER . 2011 July;287- 290:32-36
51. Wan Q, Liu Z, Peng W, Wang J, Li X, Yang Y.BnRCH gene inhibits cell growth of Hela cells through increasing the G2 phase of cell cycle.Hum Cell . 2011 Dec;24(4):150-60
52. Wang J, Bai X, Chen Y, Zhao Y, Liu X.Homocysteine induces apoptosis of rat hippocampal neurons by inhibiting 14-3-3 ε expression and activatingcalcineurin.PLoS One . 2012;7(11):e48247
53. Hu B, An HM, Shen KP, Xu L, DU Q, Deng S, Wu Y.Liver Yin deficiency tonifying herbal extract induces apoptosis and cell senescence in Bel-7402 humanhepatocarcinoma cells.Exp Ther Med . 2012 Jan;3(1):80-86
54. Huang WT, Liu J, Liu JF, Hui L, Ding YL, Chen SW.Synthesis and biological evaluation of conjugates of deoxypodophyllotoxin and 5-FU as inducer of caspase-3and -7.Eur J Med Chem . 2012 Mar;49:48-54
55. Yang ZR, Dong WG, Lei XF, Liu M, Liu QS.Overexpression of Dickkopf-3 induces apoptosis through mitochondrial pathway in human coloncancer.WORLD J GASTROENTERO . 2012 Apr;18(14):1590-601
56. Zhang YS, He L, Liu B, Li NS, Luo XJ, Hu CP, Ma QL, Zhang GG, Li YJ, Peng J.A novel pathway of NADPH oxidase/vascular peroxidase 1 in mediating oxidative injury followingischemia-reperfusion.Basic Res Cardiol . 2012 May;107(3):1-19.
57. Jin M, Wang J, Xiao R, Liu X, Wu F, Pang Y, Feng B, Yang D, Li Q.Effects of the recombinant toxin protein rLj-RGD3 in multidrug-resistant human breast carcinoma cells.ACTA BIOCH BIOPH SIN . 2012 May;44(5):455-61
58. Xu Y, Yang S, Huang J, Ruan S, Zheng Z, Lin J.Tgf-β1 induces autophagy and promotes apoptosis in renal tubular epithelial cells.Int J Mol Med . 2012 May;29(5):781-90
59. Yan L, Wang Y, Xu X, Zeng C, Hou J, Lin M, Xu J, Sun F, Huang X, Dai L, Lu F, Liu Y.Can graphene oxide cause damage to eyesight?Chem Res Toxicol . 2012 Jun;25(6):1265-70
60. Zhao D, Lin F, Wu X, Zhao Q, Zhao B, Lin P, Zhang Y, Yu X.Pseudolaric acid B induces apoptosis via proteasome-mediated Bcl-2 degradation in hormone-refractory prostate cancer DU145 cells.Toxicol In Vitro . 2012 Jun;26(4):595-602
61. Lu Yan , Mimi Lin , Chao Zeng , Zhi Chen , Shu Zhang , Xinmei Zhao , Aiguo Wu , Yaping Wang , Liming Dai , Jia Qu , Mingming Guo and Yong Liu.Electroactive and biocompatible hydroxyl- functionalized graphene by ball milling.J MATER CHEM . 2012 July;22(17):8367-71
62. Wang YB, Wang JJ, Wang SH, Liu SS, Cao JY, Li XM, Qiu S, Luo JH.Adaptor protein APPL1 couples synaptic NMDA receptor with neuronal prosurvival phosphatidylinositol 3-kinase/Akt pathway.J Neurosci . 2012 Aug;32(35):11919-29
63. Zhou Q, Xiong Y, Cheng Y, Du Y, Zhang J, Mu J, Guo Q, Wang H, Ma D, Li X.Effects of Tissue Factor Pathway Inhibitor-2 Expression on Biological Behavior of BeWo and JEG-3Cell Lines.CLIN APPL THROMB-HEM . 2012 Sep;18(5):526-33
64. Fang Y, Mo X, Luo Y, Lu Y.BAX gene over-expression via nucleofection to induce apoptosis in human lens epithelial cells.EXP BIOL MED . 2012 Sep;237(9):1000-6
65. Zhou Q, Xiong Y, Chen Y, Du Y, Zhang J, Mu J, Guo Q, Wang H, Ma D, Li X.Effects of tissue factor pathway inhibitor-2 expression on biological behavior of BeWo and JEG-3 cell lines.CLIN APPL THROMB-HEM . 2012 Sep;18(5):526-33
66. Shen A, Chen Y, Hong F, Lin J, Wei L, Hong Z, Sferra TJ, Peng J.Pien Tze Huang suppresses IL-6-inducible STAT3 activation in human colon carcinoma cells through induction ofSOCS3.Oncol Rep . 2012 Dec;28(6):2125-30
67. Hu Z, Bian X, Liu X, Zhu Y, Zhang X, Chen S, Wang K, Wang Y.Honokiol protects brain against ischemia-reperfusion injury in rats through disrupting PSD95-nNOS interaction.Brain Res . 2013 Jan;1491:204-12
68. Lu XL, Zeng J, Chen YL, He PM, Wen MX, Ren MD, Hu YN, Lu GF, He SⅩ.Sinomenine hydrochloride inhibits human hepatocellular carcinoma cell growth in vitro and in vivo: involvementof cell cycle arrest and apoptosis induction.Int J Oncol . 2013 Jan;42(1):229-38
69. Yu W，Sheng M, Xu R, Yu J, Cui K, Tong J,Shi L,Ren H.Berberine protects human renal proximal tubular cells from hypoxia/reoxygenation injury via inhibiting endoplasmic reticulum and mitochondrial stress pathways.Journal of Translational Medicine . 2013 Jan 29;11:24
70. Li C, Zhang X, Cheng L, Dai L, Xu F, Zhang J, Tian H, Chen X, Shi G, Li Y, Du T, Zhang S, Wei Y, Deng H.RNA interference targeting human FAK and EGFR suppresses human non-small-cell lung cancer xenograftgrowth in nude mice.Cancer Gene Ther . 2013 Feb;20(2):101-8
71. Xu Y, Ruan S, Wu X, Chen H, Zheng K, Fu B.Autophagy and apoptosis in tubular cells following unilateral ureteral obstruction are associated withmitochondrial oxidative stress.Int J Mol Med . 2013 Mar;31(3):628-36
72. Jin M, Xiao R, Wang J, Liu X, Liu Y, Xue Z, Lv L, Zheng Y, Li Q.Low concentrations of the recombinant toxin protein rLj-RGD3 suppress TNF-α-induced human renal carcinomacell invasion.ACTA BIOCH BIOPH SIN . 2013 May;45(5):377-82.
73. Liu L, Shen A, Chen Y, Wei L, Lin J, Sferra TJ, Hong Z, Peng J.Patrinia scabiosaefolia induces mitochondrial-dependent apoptosis in a mouse model of colorectal cancer.Oncol Rep . 2013 Aug;30(2):897-903
74. Kang J, Zhao G, Lin T, Tang S, Xu G, Hu S, Bi Q, Guo C, Sun L, Han S, Xu Q, Nie Y, Wang B, Liang S, Ding J, Wu K.A peptide derived from phage display library exhibits anti-tumor activity by targeting GRP78 in gastric cancermultidrug resistance cells.Cancer Lett . 2013 Oct 10;339(2):247-59
75. Ni Z, Dai X, Wang B, Ding W, Cheng P, Xu L, Lian J, He F.Natural Bcl-2 inhibitor (-)- gossypol induces protective autophagy via reactive oxygen species-high mobility groupbox 1 pathway in Burkitt lymphoma.LEUKEMIA LYMPHOMA . 2013 Oct;54(10):2263-8
76. Feng C, Xu Z, Li Z, Zhang D, Liu Q, Lu L.Down-regulation of Wnt10a by RNA interference inhibits proliferation and promotes apoptosis in mouse embryonic palatal mesenchymal cells through Wnt/β-catenin signaling pathway.J Physiol Biochem . 2013 Dec;69(4):855-63
77. Liu T, Zhang J, Sun D, Sui W, Zhang Y, Li D, Chen Z, Gao H.Comparative study of corneal endothelial cell damage after femtosecond laser assisted deep stromal dissection.Biomed Res Int . 2014;2014:731565
78. Yang ZY, Kan JT, Cheng ZY, Wang XL, Zhu YZ, Guo W.Daphnoretin-induced apoptosis in HeLa cells: a possible mitochondria-dependent pathway.Cytotechnology . 2014 Jan;66(1):51-61
79. Li W, Sun H, Deng Y, Zhang A, Chen H.The heterogeneity of the rDNA-ITS sequence and its phylogeny in Rhizoctonia cerealis, the cause of sharp eyespot in wheat.Curr Genet . 2014 Feb;60(1):1-9
80. Wang Y, Cai Y, Ji J, Liu Z, Zhao C, Zhao Y, Wei T, Shen X, Zhang X, Li X, Liang G.Discovery and identification of new non-ATP competitive FGFR1 inhibitors with therapeutic potential on non-small-cell lung cancer.Cancer Lett . 2014 Mar;344(1):82-9
81. He Q, Sun J, Wang Q, Wang W, He B.Neuroprotective effects of ginsenoside Rg1 against oxygen-glucose deprivation in cultured hippocampal neurons.J Chin Med

Assoc . 2014 Mar;77(3):142-9

82. Wang W, Zhou X, Yang F, Sun H, Xu D, Andersson R, Chen B, Zhou M.The effects of 5-Fluorouracil on severe acute pancreatitis-inducing apoptosis of macrophages.Pancreas . 2014 May;43(4):660-3

83. Du J, Li XH, Zhang W, Yang YM, Wu YH, Li WQ, Peng J, Li YJ.Involvement of glutamate-cystine/glutamate transporter system in aspirin-induced acute gastric mucosa injury.BIOCHEM BIOPH RES CO . 2014 Jul;450(1):135-41

84. Lin M, Li L, Zhang Y, Zheng L, Xu M, Rong R, Zhu T.Baicalin ameliorates H2O2 induced cytotoxicity in HK-2 cells through the inhibition of ER stress and the activation of Nrf2 signaling.Int J Mol Sci . 2014 Jul;15(7):12507-22.

85. Yao K, Xing H, Yang W, Liao A, Wu B, Li Y, Zhang R, Liu Z.Knockdown of RLIP76 expression by RNA interference inhibits proliferation, enhances apoptosis, and increases chemosensitivity to daunorubicin in U937 leukemia cells.TUMOR BIOL . 2014 Aug;35(8):8023-31

86. Yang ZB, Tan B, Li TB, Lou Z, Jiang JL, Zhou YJ, Yang J, Luo XJ, Peng J.Protective effect of vitexin compound B-1 against hypoxia/reoxygenation-induced injury in differentiated PC12 cells via NADPH oxidase inhibition.N-S ARCH PHARMACOL . 2014 Sep;387(9):861-71.

87. Zhao P, Liu J, Pan C, Pan Y.NLRP3 inflammasome is required for apoptosis of Aggregatibacter actinomycetemcomitans -infected human osteoblastic MG63 cells.Acta Histochem . 2014 Sep;116(7):1119-24

88. Zhang X, Ge YL, Zhang SP, Yan P, Tian RH.Downregulation of KDR expression induces apoptosis in breast cancer cells.Cell Mol Biol Lett . 2014 Dec;19(4):527-41

89. Bounda GA, Zhou W, Wang DD, Yu F.Rhein Elicits In Vitro Cytotoxicity in Primary Human Liver HL-7702 Cells by Inducing Apoptosis throughMitochondria-Mediated Pathway.EVID-BASED COMPL ALT . 2015;2015:329831

90. Wang Y, Liu W, He X, Fei Z.Hispidulin enhances the anti-tumor effects of temozolomide in glioblastoma by activating AMPK.Cell Biochem Biophys . 2015 Mar;71(2):701-6

91. Wu J, Wei T, Tang Q, Weng B, Li W, Jiang X, Ding T, Li X, Liang G, Cai Y, Ji J.Discovery and anti-cancer evaluation of two novel non-ATP-competitive FGFR1 inhibitors in non-small-cell lungcancer.BMC Cancer . 2015 Apr;15:276

92. Qin J, Teng J, Zhu Z, Chen J, Huang WJ.Genistein induces activation ofthe mitochondrial apoptosispathway by inhibiting phosphorylation of Akt incolorectal cancer cells.Pharm Biol . 2015 Apr;16:74-9

93. 93. Dai JQ, Huang YG, He AN.Dihydromethysticin kavalactone induces apoptosis in osteosarcoma cells through modulation of PI3K/Aktpathway, disruption of mitochondrial membrane potential and inducing cell cycle arrest.INT J CLIN EXP PATHO . 2015 May;8(5):4356-66

94. Chenghui Shen, Yuemei Han, Bailiang Wang, Junmei Tang, Hao Chen and Quankui Lin.Ocular biocompatibility evaluation of POSS nanomaterials for biomedical material applications.RSC Adv . 2015 May; 8(5): 4356–66

95. Wang H, Sun R, Gu M, Li S, Zhang B, Chi Z, Hao L.shRNA-Mediated Silencing of Y-Box Binding Protein-1 (YB-1) Suppresses Growth of Neuroblastoma Cell SH-SY5YIn Vitro and In Vivo.PLoS One . 2015 May;10(5):e0127224

96. Wang L, He HS, Yu HL, Zeng Y, Han H, He N, Liu ZG, Wang ZY, Xu SJ, Xiong M.Sclareol,a plant diterpene, exhibits potent antiproliferative effects via the induction of apoptosis andmitochondrial membrane potential loss in osteosarcoma cancer cells.Mol Med Rep . 2015 Jun;11(6):4273-8

97. Zhou Y, Liu QH, Liu CL, Lin L.Calycosin induces apoptosis in human ovarian cancer SKOV3 cells by activating caspases and Bcl-2 familyproteins.TUMOR BIOL . 2015 Jul;36(7):5333-9

98. Fan Y, Patima A, Chen Y, Zeng F, He W, Luo L, Jie Y, Zhu Y, Zhang L, Lei J, Xie X, Zhang H.Cytotoxic effects of β-carboline alkaloids on human gastric cancer SGC-7901 cells.Int J Clin Exp Med . 2015 Aug;8(8):12977-82

99. Ren H, Shao X, Zeng L, Wang F, Huang DN, Hou G.Matrix metalloproteinase-mediation of tumor targeting human recombinant tumor necrosis factor-α fusion protein.Mol Med Rep . 2015 Aug;12(2):2035-42

100. Sui CG, Meng FD, Li Y, Jiang YH.Antiproliferative activity of rosamultic acid is associated with induction of apoptosis, cell cycle arrest, inhibition ofcell migration and caspase activation in human gastric cancer (SGC-7901) cells.Phytomedicine . 2015 Aug 15;22(9):796-806

101. An F, Wang S, Tian Q, Zhu D.Effects of orientin and vitexin from Trollius chinensis on the growth and apoptosis of esophageal cancer EC-109 cells.ONCOL LETT 2015 Aug;10(4): 2627-33. (IF 2.311)

102. Zhang QQ, Wang WJ, Li J, Yang N, Chen G, Wang Z, Liang ZQ.Cathepsin L suppression increases the radiosensitivity of human glioma U251 cells via G2/M cell cycle arrest andDNA damage.Acta Pharmacol Sin . 2015 Sep;36(9):1113-25

103. Li C, Li H, Wang S, Song X, Zhang Z, Qian Z, Zuo H, Xu X, Weng S, He J.The c-Fos and c-Jun from Litopenaeus vannamei play opposite roles in Vibrio parahaemolyticus and white spotsyndrome virus infection.Dev Comp Immunol . 2015 Sep;52(1):26-36

104. Wang S, Li H, Qian Z, Song X, Zhang Z, Zuo H, Xu X, Weng S, He J, Li C.Identification and functional characterization ofthe TAB2 gene from Litopenaeus vannamei.FISH SHELLFISH IMMUN . 2015 Oct;46(2):206-16

105. Xia B, Liu H, Xie J, Wu R, Li Y.Akt enhances nerve growth factor-induced axon growth via activating the Nrf2/ARE pathway.Int J Mol Med . 2015 Nov;36(5):1426-32.

106. Wang L, Song G, Liu M, Chen B, Chen Y, Shen Y, Zhu J, Zhou X.MicroRNA-375 overexpression influences P19 cell proliferation, apoptosis and differentiation throughthe Notchsignaling pathway.Int J Mol Med . 2015 Nov;37(1):47-55

107. Jin H, Zhang X, Su J, Teng Y, Ren H, Yang L.RNA interference mediated knockdown of translationally controlled tumor protein induces apoptosis, and inhibits growth and invasion in glioma cells.Mol Med Rep . 2015 Nov;12(5):6617-25

108. Gang Li , Longfeng Sun , Zhongyi Mu, Yan Huang, Cheng Fu, Bin Hu.Ectopic WWOX Expression Inhibits Growth of 5637 Bladder Cancer Cell In Vitro and In Vivo.Cell Biochemistry and Biophysics November. 2015 Nov,73(2):417-25..

109. Zhang B, Xie QY, Quan Y, Pan XM, Liao DF.Reactive oxygen species induce cell death via Akt signaling in rat osteoblast-like cell line ROS 17/2.8.Toxicol Ind Health . 2015 Dec;31(12):1236-42

110. Qin J, Teng J, Zhu Z, Chen J, Huang WJ.Genistein induces activation of the mitochondrial apoptosis pathway by inhibiting phosphorylation ofAkt in colorectal cancer cells.Pharm Biol . 2016;54(1):74-9

111. Huang Z, Huang X, Jiang D, Zhang Y, Huang B, Luo G.Dihydroartemisinin inhibits cell proliferation by induced G1 arrest and apoptosis in humannasopharyngealcarcinoma cells.J Cancer Res Ther . 2016 Jan-Mar;12(1):244-7

112. Wang L, Song G, Liu M, Chen B, Chen Y, Shen Y, Zhu J, Zhou X.MicroRNA-375 overexpression influences P19 cell proliferation, apoptosis and differentiation through theNotch signaling pathway.Int J Mol Med . 2016 Jan;37(1):47-55

113. Wang S, Qian Z, Li H, Lu K, Xu X, Weng S, He J, Li C.Identification and characterization of MKK7 as an upstream activator of JNK in Litopenaeus vannamei.FISH SHELLFISH IMMUN . 2016 Jan;48:285-94

114. Chen Z, Xue J, Shen T, Ba G, Yu D, Fu Q.Curcumin alleviates glucocorticoid-induced osteoporosis by protecting osteoblasts from apoptosis in vivo and invitro.CLIN EXP PHARMACOL P . 2016 Feb;43(2):268-76

115. Chen Z, Xue J, Shen T, Ba G, Yu D, Fu Q.b Curcumin alleviates glucocorticoid-induced osteoporosis by protecting osteoblasts from apoptosis invivo and in vitro.CLIN EXP PHARMACOL P . 2016 Feb;43(2):268-76

116. Liu X, Gong W, Xu YQ, Zhu BL.Dimethylacetamide-induced Hepatic Injury in Vitro: Mechanism and Potential Preventive Strategy.Biomed Environ Sci . 2016 Feb;29(2):153-7

117. Xie H, Yang J, Xing W, Dong Y, Ren H.Nuclear EGFRvIII resists hypoxic microenvironment induced apoptosis via recruiting ERK1/2 nucleartranslocation.BIOCHEM BIOPH RES CO . 2016 Feb 5;470(2):466-72

118. Guan HP, Sun JZ, Feng XL, Chen JS, Chen FJ, Cheng XF, Liu XW, Ni B.Effects of RNA interference-mediated knockdown of livin and survivin using monomethoxypolyethyleneglycol-chitosan nanoparticles in MG-63 osteosarcoma cells.Mol Med Rep . 2016 Feb;13(2):1821-6

119. Yao J, Jiao R, Liu C, Zhang Y, Yu W, Lu Y, Tan R.Assessment of the Cytotoxic and Apoptotic Eȧects of Chaetominine in a Human Leukemia Cell Line.BIOMOL THER . 2016 Mar 1;24(2):147-55

120. Zhang YN, Duan XG, Zhang WH, Wu AL, Yang HH, Wu DM, Wei YQ, Chen XC.Antitumor activity of pluripotent cell-engineered vaccines and their potential to treat lung cancer inrelation to different levels of irradiation.ONCOTARGETS THER . 2016 Mar 11;9:1425-36

121. Yao J, Wei X, Lu Y.Chaetominine reduces MRP1-mediated drug resistance via inhibiting PI3K/Akt/Nrf2 signaling pathway inK562/Adr human leukemia cells.BIOCHEM BIOPH RES CO . 2016 May 13;473(4):867-73

122. Huang K, Li Y, Tao S, Wei G, Huang Y, Chen D, Wu C.Purification, Characterization and Biological Activity of Polysaccharides from Dendrobium officinale.Molecules . 2016 May 30;21(6).pii: E701

123. Gao X, Wang J, Bai W, Ji W, Wang L.NOB1 silencing inhibits the growth and metastasis of laryngeal cancer cells through the regulation ofJNK signaling pathway.Oncol Rep . 2016 Jun;35(6):3313-20

124. Shi B, Li Y, Wang X, Yang Y, Li D, Liu X, Yang X.Silencing of hypoxia inducible factor-1α by RNA interference inhibits growth of SK-NEP-1 Wilms tumourcells in vitro, and suppresses tumourigenesis and angiogenesis in vivo.CLIN EXP PHARMACOL P . 2016 Jun;43(6):626-33

125. Xu H, Jin L, Chen Y, Li J.Downregulation of microRNA-429 protects cardiomyocytes against hypoxia-induced apoptosis byincreasing Notch1 expression.Int J Mol Med . 2016 Jun;37(6):1677-85

126. Sui X, Li XH, Duan MH, Jia AL, Wang Y, Liu D, Li YP, Qiu ZD.Investigation of the anti-glioma activity of Oviductus ranae protein hydrolysate.Biomed Pharmacother . 2016 Jul;81:176-81

127. Feng J, Gou J, Jia J, Yi T, Cui T, Li Z.Verteporfin, a suppressor of YAP-TEAD complex, presents promising antitumor properties on ovariancancer.ONCOTARGETS THER . 2016 Aug 29;9:5371-81

128. Song G, Shen Y, Ruan Z, Li X, Chen Y, Yuan W, Ding X, Zhu L, Qian L.LncRNA-uc.167 influences cell proliferation, apoptosis and differentiation of P19 cells by regulatingMef2c.Gene . 2016 Sep 15;590(1):97-108

129. Li A, Song J, Lai Q, Liu B, Wang H, Xu Y, Feng X, Sun X, Du Z .Hypermethylation of ATP-binding cassette B1 (ABCB1) multidrug resistance 1 (MDR1) is associated withcisplatin resistance in the A549 lung adenocarcinoma cell line.Int J Exp Pathol . 2016 Dec 20. doi: 10.1111/iep.12212. [Epub ahead of print]

130. Chen X, Lv Q, Liu Y, Deng W.Effect of Food Additive Citric Acid on The Growth of Human Esophageal Carcinoma Cell Line EC109.Cell J . 2017 Winter;18(4):493-502

131. Yu Pan, Xianqing Shi, Songsong Zhang, Manli Liu.miR-210 inhibits oxidative stress damage in myocardial cell injury model.INT J CLIN EXP

PATHO 2017;10(3):3077-3084

132. Fang Y, Xu Z, Shi Y, Pei F, Yang W, Ma N, Kimatu BM, Liu K, Qiu W, Hu Q.Protection mechanism of Se-containing protein hydrolysates from Se-enriched rice on Pb2+-inducedapoptosis in PC12 and RAW264.7 cells.Food Chem . 2017 Mar 15;219:391-398

133. Ye YT, Zhong W, Sun P, Wang D, Wang C, Hu LM, Qian JQ.Apoptosis induced bythe methanol extract of Salvia miltiorrhiza Bunge in non-small cell lungcancer through PTEN-mediated inhibition of PI3K/Akt pathway.J Ethnopharmacol . 2017 Mar 22;200:107-116

134. Zhu H, Mao Q, Liu W, Yang Z, Jian X, Qu L, He C.Maspin suppresses growth, proliferation and invasion in cutaneous squamous cell carcinomacells.Oncol Rep . 2017 May;37(5):2875-2882

135. Song Z, Pan Y, Ling G, Wang S, Huang M, Jiang X, Ke Y.Escape of U251 glioma cells from temozolomide-induced senescence was modulated by CDK1/survivin signaling.Am J Transl Res . 2017 May 15;9(5):2163-2180

136. Chu Y, Fan W, Guo W, Zhang Y, Wang L, Guo L, Duan X, Wei J, Xu G.miR-1247-5p functions asa tumor suppressor in human hepatocellular carcinoma by targetingWnt3.Oncol Rep . 2017 Jul;38(1):343-351

137. Zhang Y, Peng G, Wang Y, Cui L, Wu W, Wang L, Liu C, Han X.Silencing of astrocyte elevated gene-1 inhibits proliferation and migration of melanoma cells and induces apoptosis.CLIN EXP PHARMACOL P . 2017 Jul;44(7):815-826

138. Chen M, Wang J, Yao SF, Zhao Y, Liu L, Li LW, Xu T, Gan LG, Xiao CL, Shan ZL, Zhong L, Liu BZ.Effect of YAP Inhibition on Human Leukemia HL-60 Cells.Int J Med Sci . 2017 Jul 20;14(9):902-910

139. Li Y, Li S, Luo Y, Liu Y, Yu N.LncRNA PVT1 Regulates Chondrocyte Apoptosis in Osteoarthritis by Acting asa Sponge for miR-488-3p.DNA Cell Biol . 2017 Jul;36(7):571-580

140. Xiu ZM, Wang LP, Fu J, Xu J, Liu L.1-Acetyl-5-phenyl-1H-pyrrol-3-ylacetate:An aldose reductase inhibitor forthe treatment of diabetic nephropathy.Bioorg Med Chem Lett . 2017 Sep 15;27(18):4482-4487

141. Chen M, Zhong L, Yao SF, Zhao Y, Liu L, Li LW, Xu T, Gan LG, Xiao CL, Shan ZL, Liu BZ.Verteporfin Inhibits Cell Proliferation and Induces Apoptosis in Human Leukemia NB4 Cells without Light Activation.Int J Med Sci . 2017 Sep 3;14(10):1031-1039

142. Xu X, Lv H, Li X, Su H, Zhang X, Yang J.Danshen attenuates cartilage injuries in osteoarthritis in vivo andin vitro by activatingJAK2/STAT3 and AKT pathways.EXP ANIM TOKYO . 2017 Oct 31

143. Ji W, Liu S, Zhao X, Guo Y, Xia S, Lu Y, Yin M, Xu X.Triptolide inhibits proliferation, differentiation and induces apoptosis of osteoblastic MC3T3 E1 cells.Mol Med Rep . 2017 Nov;16(5):7391-7397

144. Feng Y,Tian XY,Sun P,Cheng ZP,Shi RFSimultaneous Study of Mechanical Stretch-Induced Cell Proliferation and Apoptosis on C2C12 Myoblasts.Cells Tissues Organs . 2018;205(4):189-196

145. Xu J,Liu B,Ma S,Zhang J,Ji Y,Xu L,Zhu M,Chen S,Wu X,Wu D Characterizing the Tumor Suppressor Role of CEACAM1 in Multiple Myeloma.CELL PHYSIOL BIOCHEM . 2018;45(4):1631-1640

146. Yuan Q,Yu H,Chen J,Song X,Sun LKnockdown of pyruvate kinase type M2 suppresses tumor survival and invasion in osteosarcoma cells both in vitro and in vivo.Exp Cell Res . 2018 Jan 1;362(1):209-216

147. Xu K,Yu Q,Zhang J,Lv Z,Fu W,Wang T.Cell loss by apoptosis is involved in the intestinal degeneration that occurs during aestivation in the sea cucumber Apostichopus japonicus.COMP BIOCHEM PHYS B . 2018 Feb;216:25-31

148. Zhang M,Xin W,Yi Z,Li Y,Liu Y,Zhang H,Chen H,Chen X,Tan S,Zhu DHuman biliverdin reductase regulates the molecular mechanism underlying cancer development.J Cell Biochem . 2018 Feb;119(2):1337-1345

149. Shi H,Bi H,Sun X,Dong H,Jiang Y,Mu H,Liu G,Kong W,Gao R,Su JAntitumor effects of Tubeimoside-1 in NCI-H1299 cells are mediated by microRNA-126-5p-induced inactivation of VEGF-A/VEGFR-2/ERK signaling pathway.Mol Med Rep . 2018 Mar;17(3):4327-4336

150. Zhang N,Qiu J,Zheng T,Zhang X,Hua K,Zhang YGoserelin promotes the apoptosis of epithelial ovarian cancer cells by upregulating forkhead box O1 through the PI3K/AKT signaling pathway.Oncol Rep . 2018 Mar;39(3):1034-1042.

151. Zhu T,Xie P,Gao YF,Huang MS,Li X,Zhang W,Zhou HH,Liu ZQNucleolar and spindle-associated protein 1 is a tumor grade correlated prognosis marker for glioma patients.CNS Neurosci Ther . 2018 Mar;24(3):178-186

152. Xu Y,Cai LL-mimosine induces caspase-9-mediated apoptosis in human osteosarcoma cells.Mol Med Rep . 2018 Mar;17(3):4695-4701

153. Chen HM,Lai ZQ,Liao HJ,Xie JH,Xian YF,Chen YL,Ip SP,Lin ZX,Su ZRSynergistic antitumor effect of brusatol combined with cisplatin on colorectal cancer cells.Int J Mol Med . 2018 Mar;41(3):1447-1454

154. Pan T,Mao T,Yang H,Wang H,Wang YSilencing of TGIF sensitizes MDA-MB-231 human breast cancer cells to cisplatin-induced apoptosis.Exp Ther Med . 2018 Mar;15(3):2978-2984

155. Wei W,Shi L,Chen W,Hu L,Chen D,Shi X,Xiang H,Guo C,Wu Z.miR-200c regulates the proliferation, apoptosis and invasion of gastric carcinoma cells through the downregulation of EDNRA expression.Int J Mol Med . 2018 Mar;41(3):1619-1626

156. Wang R,Deng D,Shao N,Xu Y,Xue L,Peng Y,Liu Y,Zhi FEvodiamine activates cellular apoptosis through suppressing PI3K/AKT and activating MAPK in glioma.ONCOTARGETS THER . 2018 Mar 2;11:1183-1192

157. Zhang YS,Tang LJ,Tu H,Wang SJ,Liu B,Zhang XJ,Li NS,Luo XJ,Peng JFasudil ameliorates the ischemia/reperfusion oxidative injury in rat hearts through suppression of myosin regulatory light chain/NADPH oxidase 2 pathway.Eur J Pharmacol . 2018 Mar 5;822:1-12

158. Qiao L,Liu X,Tang Y,Zhao Z,Zhang J,Liu HK.nockdown of long non-coding RNA prostate cancer-associated ncRNA transcript 1 inhibits multidrug resistance and c-Myc-dependent aggressiveness in colorectal cancer Caco-2 and HT-29 cells.Mol Cell Biochem . 2018 Apr;441(1-2):99-108

159. Qian H,Chen Y,Huang T,Liu T,Li X,Jiang G,Zhang W,Cheng S,Li PCombined application of Embelin and tumor necrosis factor-related apoptosis-inducing ligand inhibits proliferation and invasion in osteosarcoma cells via caspase-induced apoptosis.Oncol Lett . 2018 May;15(5):6931-6940

160. Xu X,Lv H,Li X,Su H,Zhang X,Yang J.Danshen attenuates cartilage injuries in osteoarthritis in vivo and in vitro by activating JAK2/STAT3 and AKT pathways.EXP ANIM TOKYO . 2018 May 10;67(2):127-137

161. Huang X,Chen Z,Zhou S,Huang P,Zhuo Z,Zeng S,Wang L,Wang Y,Xu C,Tian HCassaine diterpenoids from the seeds of Erythrophleum fordii and their cytotoxic activities.Fitoterapia . 2018 Jun;127:245-251

162. Gong S,Zhang J,Guo Z,Fu WSenkyunolide A protects neural cells against corticosterone-induced apoptosis by modulating protein phosphatase 2A and α-synuclein signaling.DRUG DES DEV THER . 2018 Jun 25;12:1865-1879

163. Dong J,Zheng N,Wang X,Tang C,Yan P,Zhou HB,Huang JA novel HDAC6 inhibitor exerts an anti-cancer effect by triggering cell cycle arrest and apoptosis in gastric cancer.Eur J Pharmacol . 2018 Jun 5;828:67-79

164. Du GT,Ke X,Meng GL,Liu GJ,Wu HY,Gong JH,Qian XD,Cheng JL,Hong HTelmisartan attenuates hydrogen peroxide-induced apoptosis in differentiated PC12 cells.Metab Brain Dis . 2018 Aug;33(4):1327-1334.

165. Jing-Wen Zhao,Chao-Yang Zheng,Hong Wei,Da-Wei Wang,Wei ZhuProapoptic and Immunotoxic Effects of Sulfur-Fumigated Polysaccharides From Smilax Glabra Roxb. In RAW264.7 Cells.CHEM-BIOL INTERACT. 2018 Aug 25;292:84-93.;doi: 10.1016/j.cbi.2018.07.009

166. Shi H,Bi H,Sun X,Dong H,Jiang Y,Mu H,Li W,Liu G,Gao R,Su J.Tubeimoside-1 inhibits the proliferation and metastasis by promoting miR-126-5p expression in non-small cell lung cancer cells.Oncol Lett . 2018 Sep;16(3):3126-3134

167. Fu S,Fu Y,Chen F,Hu Y,Quan B,Zhang JOverexpression of MYCT1 Inhibits Proliferation and Induces Apoptosis in Human Acute Myeloid Leukemia HL-60 and KG-1a Cells in vitro and in vivo.Front Pharmacol . 2018 Sep 18;9:1045

168. Ni XQ,Lu WW,Zhang JS,Zhu Q,Ren JL,Yu YR,Liu XY,Wang XJ,Han M,Jing Q,Du J,Tang CS,Qi YFInhibition of endoplasmic reticulum stress by intermedin1-53 attenuates angiotensin II-induced abdominal aortic aneurysm in ApoE KO Mice.Endocrine . 2018 Oct;62(1):90-106.

169. Zhang YQ,Wen ZH,Wan K,Yuan D,Zeng X,Liang G,Zhu J,Xu B,Luo HA novel synthesized 3', 5'-diprenylated chalcone mediates the proliferation of human leukemia cells by regulating apoptosis and autophagy pathways.Biomed Pharmacother . 2018 Oct;106:794-804

170. Zhang Y,Sun Q,Li X,Ma X,Li Y,Jiao Z,Yang XDApigenin suppresses mouse peritoneal fibrosis by down-regulating miR34a expression.Biomed Pharmacother . 2018 Oct;106:373-380

171. Ma LQ,Yu Y,Chen H,Li M,Ihsan A,Tong HY,Huang XJ,Gao Y.Sweroside Alleviated Aconitine-Induced Cardiac Toxicity in H9c2 Cardiomyoblast Cell Line.Front Pharmacol . 2018 Oct 25;9:1138

172. Wang Y,Wang K,Hu Z,Zhou H,Zhang L,Wang H,Li G,Zhang S,Cao X,Shi FMicroRNA-139-3p regulates osteoblast differentiation and apoptosis by targeting ELK1 and interacting with long noncoding RNA ODSM.Cell Death Dis . 2018 Oct 31;9(11):1107

173. Ge L,Wang Y,Cao Y,Li G,Sun R,Teng P,Wang Y,Bi Y,Guo Z,Yuan Y,Yu DMiR-429 improved the hypoxia tolerance of human amniotic cells by targeting HIF-1α.Biotechnol Lett . 2018 Dec;40(11-12):1477-1486

174. Yilu Su,Zhi Zhou,Xiaopeng YuPossible roles of glutamine synthetase in responding to environmental changes in a scleractinian coralMol Biol Rep. 2018 Dec;45(6):2115-2124.;doi: 10.1007/s11033-018-4369-3.

175. Zhang T,Chen W,Jiang X,Liu L,Wei K,Du H,Wang H,Li J.Anticancer effects and underlying mechanism of Colchicine on human gastric cancer cell lines in vitro and in vivo.BIOSCIENCE REP . 2019 Jan 15;39(1). pii: BSR20181802

176. Tan J,Tian Y,Cai R,Yi T,Jin D,Guo J.Antiproliferative and Proapoptotic Effects of a Protein Component Purified from Aspongopus chinensis Dallas on Cancer Cells In Vitro and In Vivo.EVID-BASED COMPL ALT. 2019 Jan 3;2019:8934794

177. Tan GX,Wang XN,Tang YY,Cen WJ,Li ZH,Wang GC,Jiang JW,Wang XC.PP-22 promotes autophagy and apoptosis in the nasopharyngeal carcinoma cell line CNE-2 by inducing endoplasmic reticulum stress, downregulating STAT3 signaling, and modulating the MAPK pathway.J Cell Physiol . 2019 Mar;234(3):2618-2630

178. Zhai N,Liu K,Li H,Liu Z,Wang H,Korolchuk VI,Carroll B,Pan C,Gan F,Huang K,Chen X.PCV2 replication promoted by oxidative stress is dependent on the regulation of autophagy on apoptosis.Vet Res. 2019 Mar 5;50(1):19

179. Zheng H,Yang L,Kang Y,Chen M,Lin S,Xiang Y,Li C,Dai X,Huang X,Liang G,Zhao C.Alantolactone sensitizes human pancreatic cancer cells to EGFR inhibitors through the inhibition of STAT3 signaling.MOL CARCINOGEN. 2019 Apr;58(4):565-576

180. Wang Y,Gao YN,Bai R,Chen HY,Wu YY,Shang JJ,Bao DP.Identification of a Novel Anti-cancer Protein, FIP-bbo, from Botryobasidium botryosum and Protein Structure Analysis using Molecular Dynamic Simulation.SCI REP-UK. 2019 Apr 9;9(1):5818

181. Xu B,Wang T,Xiao J,Dong W,Wen HZ,Wang X,Qin Y,Cai N,Zhou Z,Xu J,Wang H.FCPR03, a novel phosphodiesterase 4 inhibitor, alleviates cerebral ischemia/reperfusion injury through activation of the AKT/GSK3β/β-catenin signaling pathway.Biochem Pharmacol. 2019 May;163:234-249

182. Li X,Chen C,Dai Y,Huang C,Han Q,Jing L,Ma Y,Xu Y,Liu Y,Zhao L,Wang J,Sun X,Yao X.Cinobufagin suppresses colorectal cancer angiogenesis by disrupting the endothelial mammalian target of rapamycin/hypoxia-inducible factor 1α axis.Cancer Sci. 2019 May;110(5):1724-1734

183. Xiao J,Bai XQ,Liao L,Zhou M,Peng J,Xiang Q,Ren Z,Wen HY,Jiang ZS,Tang ZH,Wang MM,Liu LS.Hydrogen sulfide inhibits PCSK9 expression through the PI3K/Akt-SREBP-2 signaling pathway to influence lipid metabolism in HepG2 cells.Int J Mol Med. 2019 May;43(5):2055-2063

184. Chen G,Liu C,Meng G,Zhang C,Chen F,Tang S,Hong H,Zhang C.Neuroprotective effect of mogrol against Aβ1-42 -induced memory impairment neuroinflammation and apoptosis in mice.J Pharm Pharmacol. 2019 May;71(5):869-877

185. Yang H,Liu JX,Shang HX,Lin S,Zhao JY,Lin JM.Qingjie Fuzheng granules inhibit colorectal cancer cell growth by the PI3K/AKT and ERK pathways.World J Gastrointest Oncol. 2019 May 15;11(5):377-392.

186. Ji Y,Hu Y,Ren J,Khanna R,Yao Y,Chen Y,Li Q,Sun L.CRMP2-derived peptide ST2-104 (R9-CBD3) protects SH-SY5Y neuroblastoma cells against Aβ25-35-induced neurotoxicity by inhibiting the pCRMP2/NMDAR2B signaling pathway.CHEM-BIOL INTERACT. 2019 May 25;305:28-39

187. Qiu ZH,Zhang WW,Zhang HH,Jiao GH.Brucea javanica oil emulsion improves the effect of radiotherapy on esophageal cancer cells by inhibiting cyclin D1-CDK4/6 axis.WORLD J GASTROENTERO. 2019 May 28;25(20):2463-2472

188. Liu Z,Wang H,Hou G,Cao H,Zhao Y,Yang B.Notoginsenoside R1 protects oxygen and glucose deprivation-induced injury by upregulation of miR-21 in cardiomyocytes.J Cell Biochem. 2019 Jun;120(6):9181-9192

189. Mian Yu,Miaoqing Zhao,Rilei Yu,Shaochen Chu,Jiahao Xu,Ming Xia,Cheng Wang.Nanotechnology-mediated Immunochemotherapy With Ingenol-3-Mebutate for Systematic Anti-tumor EffectsJ Control Release. 2019 Jun 28;304:242-258.;doi: 10.1016/j.jconrel.2019.05.007

190. Chen S,Cai F,Wang J,Yang Z,Gu C,Wang G,Mao G,Yan J.Salidroside protects SH-SY5Y from pathogenic α-synuclein by promoting cell autophagy via mediation of mTOR/p70S6K signaling.Mol Med Rep. 2019 Jul;20(1):529-538

191. Liu Y,Shao E,Zhang Z,Yang D,Li G,Cao H,Huang H.A Novel Indolizine Derivative Induces Apoptosis Through the Mitochondria p53 Pathway in HepG2 Cells.Front Pharmacol. 2019 Jul 10;10:762

192. Xin H,Li J,Zhang H,Li Y,Zeng S,Wang Z,Zhang Z,Deng F.Monensin may inhibit melanoma by regulating the selection between differentiation and stemness of melanoma stem cells.PeerJ. 2019 Jul 25;7:e7354

193. Mi L,Zhang Y,Xu Y,Zheng X,Zhang X,Wang Z,Xue M,Jin X.HMGB1/RAGE pro-inflammatory axis promotes vascular endothelial cell apoptosis in limb ischemia/reperfusion injury.Biomed Pharmacother. 2019 Aug;116:109005

194. Lan X,Liu X,Sun J,Yuan Q,Li J.CircRAD23B facilitates proliferation and invasion of esophageal cancer cells by sponging miR-5095.BIOCHEM BIOPH RES CO. 2019 Aug 20;516(2):357-364

195. Zhang Q,Zhang C,Ma JX,Ren H,Sun Y,Xu JZ.Circular RNA PIP5K1A promotes colon cancer development through inhibiting miR-1273a.WORLD J GASTROENTERO. 2019 Sep 21;25(35):5300-5309

196. Fang D,Lai Z,Wang Y.Overexpression of Biglycan is Associated with Resistance to Rapamycin in Human WERI-Rb-1 Retinoblastoma Cells by Inducing the Activation of the Phosphatidylinositol 3-Kinases (PI3K)/Akt/Nuclear Factor.MED SCI MONITOR. 2019 Sep 4;25:6639-6648

197. Zhong R,Chen Z,Mo T,Li Z,Zhang P.Potential Role of circPVT1 as a proliferative factor and treatment target in esophageal carcinoma.Cancer Cell Int. 2019 Oct 15;19:267

198. Tong R,Zhang J,Wang C,Li Q,Wang L,Ju M.Inhibition of miR-574-5p suppresses cell growth and metastasis and enhances chemosensitivity by targeting RNA binding protein QKI in cervical cancer cells.N-S ARCH PHARMACOL. 2019 Nov 30

199. Ke Wei,Haixia Sun,Xinhui Chen,Qiwang Chen,Yuehong Li,Haihao Wu.Furowanin A Exhibits Antiproliferative and Pro-Apoptotic Activities by Targeting Sphingosine Kinase 1 in OsteosarcomaANAT REC. 2019 Nov;302(11):1941-1949.;doi: 10.1002/ar.24200

200. Zhou Y,Su P,Pan Z,Liu D,Niu Y,Zhu W,Yao P,Song Y,Sun Y.Combination Therapy With Hyperbaric Oxygen and Erythropoietin Inhibits Neuronal Apoptosis and Improves Recovery in Rats With Spinal Cord Injury.Phys Ther. 2019 Dec 16;99(12):1679-1689

201. . Hanrui Li,GeTao Du,Lu Yang,Liaojun Pang,Yonghua Zhan.The Antitumor Effects of Britanin on Hepatocellular Carcinoma Cells and its Real-Time Evaluation by In Vivo Bioluminescence ImagingANTI-CANCER AGENT ME. 2020;20(9):1147-1156.;doi:10.2174/1871520620666200227092623

202. Zhou J,Liu Q,Qian R,Liu S,Hu W,Liu Z.Paeonol antagonizes oncogenesis of osteosarcoma by inhibiting the function of TLR4/MAPK/NF-κB pathway.Acta Histochem. 2020 Jan;122(1):151455

203. Tiantian Liu,Qingqing Wang,Kuiwu Yao.Huoxue Wentong Formula ameliorates myocardial infarction in rats through inhibiting CaMKII oxidation and phosphorylationChinese Medical Journal. 2020 Jan 10;15:3.;doi:10.1186/s13020-020-0285-2.

204. Li F,Liu Z,Sun H,Li C,Wang W,Ye L,Yan C,Tian J,Wang H.PCC0208017, a novel small-molecule inhibitor of MARK3/MARK4, suppresses glioma progression in vitro and in vivo.Acta Pharm Sin B. 2020 Feb;10(2):289-300

205. Yixuan Wang,Ke Wang,Lijun Zhang,Yingjun Tan,Zebing Hu,Lei Dang,Hua Zhou,Gaozhi Li,Han Wang,Shu Zhang,Fei Shi,Xinsheng Cao,Ge Zhang.Targeted overexpression of the long noncoding RNA ODSM can regulate osteoblast function in vitro and in vivoCell Death Dis. 2020 Feb 18;11(2):133.;doi:10.1038/s41419-020-2325-3

206. Hang Lin,Yi Hao,Xiaoqing Wan,Jun He,Yongjun Tong.Baicalein inhibits cell development, metastasis and EMT and induces apoptosis by regulating ERK signaling pathway in osteosarcoma.J RECEPT SIG TRANSD. 2020 Feb;40(1):49-57.;doi: 10.1080/10799893.2020.1713807

207. Jing Wu,Kehui Zhu,Xiaolu Luo,Yajing Han,Baohuan Zhang,Zichen Wang,Shirui Dong,Xiaoqian Zou,Xiaojing Chen,Hongxuan Liu,Tianyuan Wu,Zhong Zheng,Yuefeng Xie,Jierong Zhao,Yumei Liu,Zihao Wen,Dandan Liu,Yao Wang,Shaoling Zheng,Xiuxia Huang,Chunxia Jing,Guang Yang.PM 2.5 promotes replication of VSV by ubiquitination degradation of phospho-IRF3 in A549 cellsToxicol In Vitro. 2020 Feb;62:104698.;doi: 10.1016/j.tiv.2019.104698

208. Zhang X,Wang Z,Li W,Huang R,Zheng D,Bi G.MicroRNA-217-5p ameliorates endothelial cell apoptosis induced by ox-LDL by targeting CLIC4.Nutr Metab Cardiovasc Dis. 2020 Mar 9;30(3):523-533.

209. Danni Ran,Jianfen Zhou,Zhilan Chai,Jinyang Li,Cao Xie,Jiani Mao,Linwei Lu,Yanyu Zhang,Sunyi Wu,Changyou Zhan,Weiyue Lu.All-stage precisional glioma targeted therapy enabled by a well-designed D-peptideTheranostics. 2020 Mar 4;10(9):4073-4087.;doi: 10.7150/thno.41382

210. Yang Han,Nan Wu,Fei Xia,Shuang Liu,Dalin Jia.Long non-coding RNA GAS5 regulates myocardial ischemia-reperfusion injury through the PI3K/AKT apoptosis pathway by sponging miR-532-5pInt J Mol Med. 2020 Mar;45(3):858-872.;doi: 10.3892/ijmm.2020.4471

211. Zhu J,Wang YF,Chai XM,Qian K,Zhang LW,Peng P,Chen PM,Cao JF,Qin ZH,Sheng R,Xie H.Exogenous NADPH ameliorates myocardial ischemia-reperfusion injury in rats through activating AMPK/mTOR pathway.Acta Pharmacol Sin. 2020 Apr;41(4):535-545

212. Laijun Xu,Lingzhi Li,Jun Zhang,Wenping Cai,Shouliang Zhao,Shangfeng Liu.Accumulated cytotoxicity of CDK inhibitor dinaciclib with first-line chemotherapy drugs in salivary adenoid cystic carcinoma cells.Odontology. 2020 Apr;108(2):300-311.;doi: 10.1007/s10266-019-00451-5

213. Xianglu Ji,Tianjing Liu,Shuyi Zhao,Jianjun Li,Lianyong Li,Enbo Wang.WISP-2, an upregulated gene in hip cartilage from the DDH model rats, induces chondrocyte apoptosis through PPARγ in vitro.FASEB J. 2020 Apr;34(4):4904-4917.;doi: 10.1096/fj.201901915R

214. Shiqun Sun,Zhi Cui,Tongtong Yan,Jian Wu,Zhihui Liu.CCN5 inhibits proliferation and promotes apoptosis of oral squamous cell carcinoma cells.Cell Biol Int. 2020 Apr;44(4):998-1008.;doi: 10.1002/cbin.11296

215. Qi YL,Li Y,Man XX,Sui HY,Zhao XL,Zhang PX,Qu XS,Zhang H,Wang BX,Li J,Qi SF,Jia LL,Luan HY,Zhang CB,Wang WQ.CXCL3 overexpression promotes the tumorigenic potential of uterine cervical cancer cells via the MAPK/ERK pathway.J Cell Physiol. 2020 May;235(5):4756-4765

216. Xinyi Xu,Yingying Guo,Getao Du,Huifang Liu,Lin Wang,Dan Chen.Bioluminescence Imaging-Based Assessment of the Anti-Triple-Negative Breast Cancer and NF-Kappa B Pathway Inhibition Activity of Britanin.Front Pharmacol. 2020 May 5;11:575.;doi: 10.3389/fphar.2020.00575

217. Xingyu Yang,Chunjun Yang,Liyun Wang,Zhicheng Cao,Yuan Wang,Cheng Cheng,Guoping Zhao,Ye Zhao.Inhibition of basal cell carcinoma cells by cold atmospheric plasma-activated solution and differential gene expression analysis.Int J Oncol. 2020 May;56(5):1262-1273.;doi: 10.3892/ijo.2020.5009

218. Naiying Shen,Zhixiang Wang,Cong Wang,Jingyao Zhang,Chang Liu.Methane Alleviates Inflammation and Apoptosis of Dextran Sulfate Sodium-Induced Inflammatory Bowel Diseases by Inhibiting Toll-Like Receptor 4 (TLR4)/Myeloid Differentiation Factor 88 (MyD88)/Nuclear.MED SCI MONITOR. 2020 Jun 5;26:e922248.;doi: 10.12659/MSM.922248

219. Meixi Liu,Xia Huang,Yihong Tian,Xiao Yan,Fang Wang,Junbo Chen,Qi Zhang,Qiang Zhang,Xiao Yuan.Phosphorylated GSK-3β protects stress-induced apoptosis of myoblasts via the PI3K/Akt signaling pathway.Mol Med Rep. 2020 Jul;22(1):317-327.;doi: 10.3892/mmr.2020.11105

220. Chen Zhao,Ye Wang,Zhonglan Su,Wenyuan Pu,Mengyuan Niu,Shiyu Song,Lulu Wei,Yibing Ding,Lizhi Xu,Man Tian,Hongwei Wang.Respiratory exposure to PM2.5 soluble extract disrupts mucosal barrier function and promotes the development of experimental asthma.Sci Total Environ. 2020 Aug 15;730:139145.;doi: 10.1016/j.scitotenv.2020.139145

221. Lili Yuan,Zhe Wang,Dongyang Zhang,Jiahe Wang.Metabonomic study of the intervention effects of Parthenolide on anti-thyroid cancer activity.J CHROMATOGR B. 2020 Aug 1;1150:122179.;doi: 10.1016/j.jchromb.2020.122179

222. Song Yang,Han Wang,Chundi Qin,Hongmei Sun,Yupeng Han.Up-regulation of CXCL8 expression is associated with a poor prognosis and enhances tumor cell malignant behaviors in liver cancer.BIOSCIENCE REP. 2020 Aug 28;40(8):BSR20201169.;doi: 10.1042/BSR20201169

223. Tiezhu Guo,Yueting Liu,Xinliang Ren,Wei Wang,Hanrui Liu.Promoting Role of Long Non-Coding RNA Small Nucleolar RNA Host Gene 15 (SNHG15) in Neuronal Injury Following Ischemic Stroke via the MicroRNA-18a/CXC Chemokine Ligand 13 (CXCL13)/ERK/MEK AxisMED SCI MONITOR. 2020 Aug 30;26:e923610.;doi: 10.12659/MSM.923610

224. Haoshan Li,Yan Zhou,Hailing Cheng,Jun Tian,Shaoqin Yang.Roles of a TMPO-

AS1/microRNA-200c/TMEFF2 ceRNA network in the malignant behaviors and 5-FU resistance of ovarian cancer cells.Exp Mol Pathol. 2020 Aug;115:104481.;doi: 10.1016/j.yexmp.2020.104481

225. Lei Zhang,Zhenyong Wang,Deshuai Kong,Xiulei Zhao,Xiongfei Chen,Wei Chai.Knockdown of interferon-induced transmembrane protein 1 inhibited proliferation, induced cell cycle arrest and apoptosis, and suppressed MAPK signaling pathway in pancreatic cancer cells.BIOSCI BIOTECH BIOCH. 2020 Aug;84(8):1603-1613.;doi: 10.1080/09168451.2020.1762479

226. Yejia Cui,Rong Pu,Jinjun Ye,Haohai Huang,Dan Liao,Yufeng Yang,Wanchan Chen,Yelin Yao,Yingai He.LncRNA FAM230B Promotes Gastric Cancer Growth and Metastasis by Regulating the miR-27a-5p/TOP2A Axis.DIGEST DIS SCI. 2020 Sep 10.;doi: 10.1007/s10620-020-06581-z

227. Shizong Li,Xianglu Li,Xuehua Xing,Lin Wang.miR-597-5p inhibits cell growth and promotes cell apoptosis by targeting ELK1 in pancreatic cancer.Hum Cell. 2020 Oct;33(4):1165-1175.;doi: 10.1007/s13577-020-00395-x

228. Ya-Wen An,Han-Qing Liu,Zi-Qian Zhou,Jian-Chun Wang,Guang-Yu Jiang,Zhi-Wen Li,Feng Wang,Hong-Tao Jin.Sinoporphyrin sodium is a promising sensitizer for photodynamic and sonodynamic therapy in glioma.Oncol Rep. 2020 Oct;44(4):1596-1604.;doi: 10.3892/or.2020.7695

229. Bensheng Jiang,Linlin Tian,Xiaoli Huang,Zhengqi Liu,Kaiying Jia,Hua Wei,Xueying Tao.Characterization and antitumor activity of novel exopolysaccharide APS of Lactobacillus plantarum WLPL09 from human breast milk.Int J Biol Macromol. 2020 Nov 15;163:985-995.;doi: 10.1016/j.ijbiomac.2020.06.277

230. Jiajia Zhai,Zeping Li,Huifeng Zhang,Louyan Ma,Zhengquan Ma,Yi Zhang,Jian Zou,Mo Li,Li Ma,Xin Wang,Xiaomiao Li.Berberine protects against diabetic retinopathy by inhibiting cell apoptosis via deactivation of the NF-κB signaling pathway.Mol Med Rep. 2020 Nov;22(5):4227-4235.;doi: 10.3892/mmr.2020.11505

231. Xiande Ma,Wei Zhang,Chang Xu,Shuangshuang Zhang,Jiaxiu Zhao,Qian Pan,Zhe Wang.Nucleotide-binding oligomerization domain protein 1 enhances oxygen-glucose deprivation and reperfusion injury in cortical neurons via activation of endoplasmic reticulum stress-mediated autophagy.Exp Mol Pathol. 2020 Dec;117:104525.;doi: 10.1016/j.yexmp.2020.104525

232. Yongtai Zhang,Zehui He,Yanyan Li,Qing Xia,Zhe Li,Xuefeng Hou,Nianping Feng.Tumor cell membrane-derived nano-Trojan horses encapsulating phototherapy and chemotherapy are accepted by homologous tumor cells.MAT SCI ENG C-MATER. 2021 Jan;120:111670.;doi: 10.1016/j.msec.2020.111670

233. Sirui Zhu,Xiaoli Liu,Mei Xue,Yu Li,Danhong Cai,Shijun Wang,Liang Zhang.20(S)-ginsenoside Rh2 induces caspase-dependent promyelocytic leukemia-retinoic acid receptor A degradation in NB4 cells via Akt/Bax/caspase9 and TNF-α/caspase8 signaling cascades.J Ginseng Res. 2021 Mar;45(2):295-304.;doi: 10.1016/j.jgr.2020.05.001

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