



碧云天网站



微信公众号

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

细胞周期与细胞凋亡检测试剂盒

产品编号	产品名称	包装
C1052	细胞周期与细胞凋亡检测试剂盒	50次

产品简介:

- 碧云天生产的细胞周期与细胞凋亡检测试剂盒(Cell Cycle and Apoptosis Analysis Kit)是一种采用经典的碘化丙啶染色(Propidium staining, 即PI staining)方法进行细胞周期与细胞凋亡分析的检测试剂盒。
- 碘化丙啶(Propidium, 简称PI)是一种双链DNA的荧光染料。碘化丙啶和双链DNA结合后可以产生荧光, 并且荧光强度和双链DNA的含量成正比。细胞内的DNA被碘化丙啶染色后, 可以用流式细胞仪对细胞进行DNA含量测定, 然后根据DNA含量的分布情况, 可以进行细胞周期和细胞凋亡分析。
- 碘化丙啶染色后, 假设G0/G1期细胞的荧光强度为1, 那么含有双份基因组DNA的G2/M期细胞的荧光强度的理论值为2, 正在进行DNA复制的S期细胞的荧光强度为1-2之间。凋亡细胞由于细胞核发生浓缩以及发生DNA片段化(DNA fragmentation)导致部分基因组DNA片段在染色过程中丢失, 因此凋亡细胞碘化丙啶染色后呈现明显的弱染, 即荧光强度小于1, 在流式检测的荧光图上出现所谓的sub-G1峰, 即凋亡细胞峰。
- 细胞发生凋亡时, 由于胞浆和染色质浓缩、核碎裂, 产生凋亡小体, 使细胞的光散射性质发生变化。在细胞凋亡的早期, 细胞对前向角光散射的能力显著降低, 对侧向光散射的能力增加或没有变化。在细胞凋亡的晚期, 前向和侧向光散射的信号均降低。因此可通过流式细胞仪测定细胞光散射的变化观察细胞凋亡情况。
- 本试剂盒通常应用于培养的贴壁或悬浮细胞的细胞周期与细胞凋亡检测。如果用于组织的细胞周期与细胞凋亡检测, 则必须把组织消化成单细胞状态, 才可以进行检测。
- 本试剂盒足够检测50个样品, 每个样品的细胞数量可以为10-100万。

包装清单:

产品编号	产品名称	包装
C1052-1	染色缓冲液	25ml
C1052-2	碘化丙啶染色液(20X)	1.25ml
C1052-3	RNase A (50X)	0.5ml
—	说明书	1份

保存条件:

-20°C保存, 一年有效。C1052-2碘化丙啶染色液(20X)需避光保存。本试剂盒可4°C保存, 一个月内有效。

注意事项:

- 本试剂盒需使用流式细胞仪进行检测。
- 需自备PBS和70%乙醇, PBS (C0221A)可以向碧云天订购。
- 荧光染料均存在淬灭问题, 保存和使用过程中请尽量注意避光, 以减缓荧光淬灭。
- 碘化丙啶对人体有刺激性, 操作时请小心, 并注意适当防护以避免直接接触人体或吸入体内。
- 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. 细胞样品的准备:

- 对于贴壁细胞: 小心收集细胞培养液到一离心管内备用。用胰酶消化细胞, 至细胞可以被轻轻用移液管或枪头吹打下来时, 加入前面收集的细胞培养液, 吹打下所有的贴壁细胞, 并轻轻吹散细胞。再次收集到离心管内。1000g左右离心3-5分钟, 沉淀细胞。对于特定的细胞, 如果细胞沉淀不充分, 可以适当延长离心时间或稍稍加大离心力。小心吸除上清, 可以残留约50微升左右的培养液, 以避免吸走细胞。加入约1毫升冰浴预冷的PBS, 重悬细胞, 并转移到1.5毫升离心管内。再次离心沉淀细胞, 小心吸除上清, 可以残留约50微升左右的PBS, 以避免吸走细胞。轻轻弹击离心管底以适当分散细胞, 避免细胞成团。
- 对于悬浮细胞: 1000g左右离心3-5分钟, 沉淀细胞。对于特定的细胞, 如果细胞沉淀不充分, 可以适当延长离心时间或稍稍加大离心力。小心吸除上清, 可以残留约50微升左右的培养液, 以避免吸走细胞。加入约1毫升冰浴预冷的PBS, 重悬细胞, 并转移到1.5毫升离心管内。再次离心沉淀细胞, 小心吸除上清, 可以残留约50微升左右的PBS, 以避免吸走细胞。轻轻弹击离心管底以适当分散细胞, 避免细胞成团。

- 细胞固定：加入1毫升冰浴预冷70%乙醇中，轻轻吹打混匀，4℃固定30分钟或更长时间。通常固定2小时或以上更能保证染色效果，固定12-24小时可能效果更佳。1000g左右离心3-5分钟，沉淀细胞。对于特定的细胞，如果细胞沉淀不充分，可以适当延长离心时间或稍稍加大离心力。小心吸除上清，可以残留约50微升左右的70%乙醇，以避免吸走细胞。加入约1毫升冰浴预冷的PBS，重悬细胞。再次离心沉淀细胞，小心吸除上清，可以残留约50微升左右的PBS，以避免吸走细胞。轻轻弹击离心管底以适当分散细胞，避免细胞成团。
- 碘化丙啶染色液的配制：参考下表，根据待检测样品的数量配制适量的碘化丙啶染色液：

	1个样品	6个样品	12个样品
染色缓冲液	0.5ml	3ml	6ml
碘化丙啶染色液(20X)	25μl	150μl	300μl
RNase A (50X)	10μl	60μl	120μl
Final volume	0.535ml	3.21ml	6.42ml

注：配制好的碘化丙啶染色液短时间内可以4℃保存，宜当日使用。

- 染色：每管细胞样品中加入0.5毫升碘化丙啶染色液，缓慢并充分重悬细胞沉淀， 37℃避光温浴30分钟。随后可以4℃或冰浴避光存放。染色完成后宜在24小时内完成流式检测，最好能在当日完成流式检测。
- 流式检测和分析：用流式细胞仪在激发波长488nm波长处检测红色荧光，同时检测光散射情况。采用适当分析软件进行细胞DNA含量分析和光散射分析。

使用本产品的文献：

- Peng Y, Li J. Antitumor activity of *Scutellaria baicalensis* Georgi total flavonoids on mice bearing U14 cervical carcinoma. *African Journal of Biotechnology*. 2011 Dec;10(82):19167-75.
- Jiang X, Sha X, Xin H, Chen L, Gao X, Wang X, Law K, Gu J, Chen Y, Jiang Y, Ren X, Ren Q, Fang X. Self-aggregated pegylated poly(trimethylene carbonate) nanoparticles decorated with c(RGDyK)peptide for targeted paclitaxel delivery to integrin-rich tumors. *Biomaterials*. 2011 Dec;32(35):9457-69.
- 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: evidence for a novel anti-cancer effect of endogenous H2S. *PLoS One*. 2011;6(6):e20525.
- Peng Y, Sun M, Di Y, Huo XL, Fu ZZ, Li QW, Liu Z, Jiang B, Liuand YY, Zhang YX. Antitumor effect of the ethanol extract of *Scutellaria baicalensis* on the mice bearing U14 cervical cancer. *African Journal of Biotechnology*. 2012 Mar 22;Vol.11(24):6542-6549.
- He Y, Huang C, Sun X, Long XR, Lv XW, Li J. MicroRNA-146a modulates TGF-beta1-induced hepatic stellate cell proliferation by targeting SMAD4. *Cell Signal*. 2012 Oct;24(10):1923-30.
- Lin LY, Bao YL, Chen Y, Sun LG, Yang XG, Liu B, Lin ZX, Zhang YW, Yu CL, Wu Y, Li YX. N-Benzoyl-12-nitrodehydroabietylamine-7-one, a novel dehydroabietylamine derivative, induces apoptosis and inhibits proliferation in HepG2 cells. *Chem Biol Interact*. 2012 Aug 30;199(2):63-73.
- Yao Y, Zhang YW, Sun LG, Liu B, Bao YL, Lin H, Zhang Y, Zheng LH, Sun Y, Yu CL, Wu Y, Wang GN, Li YX. Juglanthraquinone C, a novel natural compound derived from *Juglans mandshurica* Maxim, induces S phase arrest and apoptosis in HepG2 cells. *Apoptosis*. 2012 Aug;17(8):832-41.
- Liu HR, Meng LY, Lin ZY, Shen Y, Yu YQ, Zhu YZ. *Cochinchina momordica* seed extract induces apoptosis and cell cycle arrest in human gastric cancer cells via PARP and p53 signal pathways. *Nutr Cancer*. 2012;64(7):1070-7.
- Meng FM, Yang JB, Yang CH, Jiang Y, Zhou YF, Yu B, Yang H. *Vitexa rpin* Induces Apoptosis in Human Prostate Carcinoma PC-3 Cells through G2/M Phase Arrest. *Asian Pac J Cancer Prev*. 2012;13(12):6369-74.
- Li C, Ge M, Yin Y, Luo M, Chen D. Silencing expression of ribosomal protein L26 and L29 by RNA interfering inhibits proliferation of human pancreatic cancer PANC-1 cells. *Mol Cell Biochem*. 2012 Nov;370(1-2):127-39.
- Hu L, Cao D, Li Y, He Y, Guo K. Resveratrol sensitized leukemia stem cell-like KG-1a cells to cytokine-induced killer cell-mediated cytotoxicity through NKG2D ligands and TRAIL receptors. *Cancer Biol Ther*. 2012 May;13(7):516-26.
- Sun Y, Xu G, Cao Z, Gou S. Synthesis and biological evaluation of platinum(II) complexes containing (1R,2R)-N1-alkyl-1,2-diaminocyclohexane and D-(+)-camphorate ligands. *Inorganica Chimica Acta*. 2013 Jan;395(30):154-9.
- Zhao J, Qiu H, Chen DL, Zhang WX, Zhang DC, Li M. Development of nanofibrous scaffolds for vascular tissue engineering. *Int J Biol Macromol*. 2013 May;56:106-13.
- Zhu K, Guo X, Guo X, Peng W, Zhou H. Protective effects of wheat germ protein isolate hydrolysates (WGPIH) against hydrogen peroxide-induced oxidative stress in PC12 cells. *Food Research International*. 2013 Aug;53(1):297-303.
- Shen XH, Xu SJ, Jin CY, Ding F, Zhou YC, Fu GS. Interleukin-8 prevents oxidative stress-induced human endothelial cell senescence via telomerase activation. *Int Immunopharmacol*. 2013 Jun;16(2):261-7.
- Zhang P, Wu Y, Dai Q, Fang B, Jiang L. p38-MAPK signaling pathway is not involved in osteogenic differentiation during early response of mesenchymal stem cells to continuous mechanical strain. *Mol Cell Biochem*. 2013 Jun;378(1-2):19-28.
- Chen Y, Zhang W, Gu J, Ren Q, Fan Z, Zhong W, Fang X, Sha X. Enhanced antitumor efficacy by methotrexate conjugated Pluronic mixed micelles against KBv multidrug resistant cancer. *Int J Pharm*. 2013 Aug 16;452(1-2):421-33.
- Jiang Z, Wu M, Miao J, Duan H, Zhang S, Chen M, Sun L, Wang Y, Zhang X, Zhu X, Zhang L. Deoxypodophyllotoxin exerts both anti-angiogenic and vascular disrupting effects. *Int J Biochem Cell Biol*. 2013 May 20;45(8):1710-1719.
- Kong D, Zhang F, Wei D, Zhu X, Zhang X, Chen L, Lu Y, Zheng S. Paeonol inhibits hepatic fibrogenesis by disrupting nuclear factor-κB pathway in activated stellate cells: In vivo and in vitro studies. *J Gastroenterol Hepatol*. 2013 Jul;28(7):1223-33.
- Yu HY, Zhang XQ, Li X, Zeng FB, Ruan HL. 2-Methoxyjuglone Induces Apoptosis in HepG2 Human Hepatocellular Carcinoma Cells and Exhibits In Vivo Antitumor Activity in a H22 Mouse Hepatocellular Carcinoma Model. *J Nat Prod*. 2013 May 24;76(5):889-95.
- Wang Y, Liu P, Qiu L, Sun Y, Zhu M, Gu L, Di W, Duan Y. Toxicity and therapy of cisplatin-loaded EGF modified mPEG-PLGA-PLL nanoparticles for SKOV3 cancer in mice. *Biomaterials*. 2013 May;34(16):4068-77.
- Wei Y, Xu Y, Han X, Qi Y, Xu L, Xu Y, Yin L, Sun H, Liu K, Peng J. Anti-cancer effects of dioscin on three kinds of human lung cancer cell lines through inducing DNA damage and activating mitochondrial signal pathway. *Food Chem Toxicol*. 2013 Jun 11;59C:118-128.
- Wang Y, Xu SL, Wu YZ, Zhao MS, Xu WJ, Yang HY, Li YX. Simvastatin induces caspase-dependent apoptosis and activates P53 in OCM-1 cells. *Exp Eye Res*. 2013 May 30;113C:128-134.
- Zhang H, Yao D, Yao M, Huang H, Wang L, Yan M, Yan X, Gu X, Wu W, Lu S. Annexin A2 silencing inhibits invasion, migration, and tumorigenic potential of hepatoma cells. *World J Gastroenterol*. 2013 June 28; 19(24): 3792-3801.
- Xu L, Qi Y, Lv L, Xu Y, Zheng L, Yin L, Liu K, Han X, Zhao Y, Peng J. In vitro anti-proliferative effects of Zuojinwan on eight kinds of human cancer cell lines. *Cytotechnology*. 2014 Jan;66(1):37-50.
- Sui JQ, Xie KP, Zou W, Xie MJ. Emodin inhibits breast cancer cell proliferation through the ERα-MAPK/Akt-cyclin D1/Bcl-2 signaling pathway. *Asian Pac J Cancer Prev*. 2014;15(15):6247-51.
- 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

- ces apoptosis, and increases chemosensitivity to daunorubicin in U937 leukemia cells. *Tumour Biol.* 2014 Aug;35(8):8023-31.
28. Wang L, Li MD, Cao PP, Zhang CF, Huang F, Xu XH, Liu BL, Zhang M. Astin B, a cyclic pentapeptide from *Aster tataricus*, induces apoptosis and autophagy in human hepatic L-02 cells. *Chem Biol Interact.* 2014 Sep 16;223C:1-9.
 29. Dong Z, Yao M, Zhang H, Wang L, Huang H, Yan M, Wu W, Yao D. Inhibition of Annexin A2 gene transcription is a promising molecular target for hepatoma cell proliferation and metastasis. *Oncol Lett.* 2014 Jan;7(1):28-34.
 30. Qiu T, Zhou X, Wang J, Du Y, Xu J, Huang Z, Zhu W, Shu Y, Liu P. MiR-145, miR-133a and miR-133b inhibit proliferation, migration, invasion and cell cycle progression via targeting transcription factor Sp1 in gastric cancer. *FEBS Lett.* 2014 Apr 2;588(7):1168-77.
 31. He Y, Nie Y, Xie L, Song H, Gu Z. p53 mediated apoptosis by reduction sensitive shielding ternary complexes based on disulfide linked PEI ternary complexes. *Biomaterials.* 2014 Feb;35(5):1657-66.
 32. Long XR, He Y, Huang C, Li J. MicroRNA-148a is silenced by hypermethylation and interacts with DNA methyltransferase 1 in hepatocellular carcinoma. *Int J Oncol.* 2014 Jun;44(6):1915-22.
 33. He Y, Wu YT, Huang C, Meng XM, Ma TT, Wu BM, Xu FY, Zhang L, Lv XW, Li J. Inhibitory effects of long noncoding RNA MEG3 on hepatic stellate cells activation and liver fibrogenesis. *Biochim Biophys Acta.* 2014 Nov;1842(11):2204-15.
 34. Zhang Z, Huang L, Wu Q, Yang E, Zhang G, Sun H, Wang F. A recombinant trans-membrane protein hMnSOD-R9 inhibits the proliferation of cervical cancer cells in vitro. *Mol Cell Biochem.* 2014 Jan;385(1-2):79-86.
 35. Sun X, He Y, Ma TT, Huang C, Zhang L, Li J. Participation of miR-200a in TGF- β 1-mediated hepatic stellate cell activation. *Mol Cell Biochem.* 2014 Mar;388(1-2):11-23.
 36. Huang J, Zhang H, Yu Y, Chen Y, Wang D, Zhang G, Zhou G, Liu J, Sun Z, Sun D, Lu Y, Zhong Y. Biodegradable self-assembled nanoparticles of poly (D,L-lactide-co-glycolide)/hyaluronic acid block copolymers for targeted delivery of docetaxel to breast cancer. *Biomaterials.* 2014 Jan;35(1):50-66.
 37. Sun H, Zhang G, Dong F, Wang F, Cao W. Reprogramming sertoli cells into pluripotent stem cells. *Cell Reprogram.* 2014 Jun;16(3):196-205.
 38. Lei Y, Huang T, Su M, Luo J, Korteweg C, Li J, Chen Z, Qiu Y, Liu X, Yan M, Wang Y, Gu J. Expression and distribution of immunoglobulin G in the normal liver, hepatocarcinoma and postpartial hepatectomy liver. *Lab Invest.* 2014 Nov;94(11):1283-95.
 39. Yuan W, Kuai R, Ran R, Fu L, Yang Y, Qin Y, Liu Y, Tang J, Fu H, Zhang Q, Yuan M, Zhang Z, Gao F, He Q. Increased delivery of doxorubicin into tumor cells using extracellularly activated TAT functionalized liposomes: in vitro and in vivo study. *J Biomed Nanotechnol.* 2014 Aug;10(8):1563-73.
 40. Zhang Y, Song X, Gong W, Zhu Z, Liu X, Hou Q, Sun Y, Chai J, Zou L, Guan J. RLIP76 blockade by siRNA inhibits proliferation, enhances apoptosis, and suppresses invasion in HT29 colon cancer cells. *Cell Biochem Biophys.* 2015 Mar;71(2):579-85.
 41. Wu Y, Liu X, Zhou Q, Huang C, Meng X, Xu F, Li J. Silent information regulator 1 (SIRT1) ameliorates liver fibrosis via promoting activated stellate cell apoptosis and reversion. *Toxicol Appl Pharmacol.* 2015 Dec 1;289(2):163-76.
 42. Fan K, Li X, Cao Y, Qi H, Li L, Zhang Q, Sun H. Carvacrol inhibits proliferation and induces apoptosis in human colon cancer cells. *Anticancer Drugs.* 2015 Sep;26(8):813-23.
 43. Gao H, Jiang Q, Han Y, Peng J, Wang C. shRNA-Mediated EMMPRIN Silencing Inhibits Human Leukemic Monocyte Lymphoma U937 Cell Proliferation and Increases Chemosensitivity to Adriamycin. *Cell Biochem Biophys.* 2015 Mar;71(2):827-35.
 44. Zhang Y, Song X, Gong W, Zhu Z, Liu X, Hou Q, Sun Y, Chai J, Zou L, Guan J. RLIP76 Blockade by siRNA Inhibits Proliferation, Enhances Apoptosis, and Suppresses Invasion in HT29 Colon Cancer Cells. *Cell Biochem Biophys.* 2015 Mar;71(2):579-85.
 45. Wang YR, Xu Y, Jiang ZZ, Guerram M, Wang B, Zhu X, Zhang LY. Deoxyphyllotoxin induces G2/M cell cycle arrest and apoptosis in SGC-7901 cells and inhibits tumor growth in vivo. *Molecules.* 2015 Jan 20;20(1):1661-75.
 46. Lan QY, Liu QL, Cai J, Liu AW. 3-cinnamoyl-4-hydroxy-6-methyl-2H-pyran-2-one (CHP) inhibits human ovarian cell proliferation by inducing apoptosis. *Int J Clin Exp Pathol.* 2015 Jan 1;8(1):155-63.
 47. Gao RW, Kong XY, Zhu XX, Zhu GQ, Ma JS, Liu XX. Retinoic acid promotes primary fetal alveolar epithelial type II cell proliferation and differentiation to alveolar epithelial type I cells. *In Vitro Cell Dev Biol Anim.* 2015 May;51(5):479-87.
 48. Hu J, Pan J, Luo Z, Tao Z. Downregulation of Survivin by shRNA Inhibits Invasion and Enhances the Radiosensitivity of Laryngeal Squamous Cell Carcinoma. *Cell Biochem Biophys.* 2015 May;72(1):251-7.
 49. Zhou B, Shu B, Xi T, Su N, Liu J. Dub3 expression correlates with tumor progression and poor prognosis in human epithelial ovarian cancer. *Biomol Pharmacother.* 2015 Mar;70:84-9.
 50. Gao C, Yu Z, Liu S, Xin H, Li X. Overexpression of CUGBP1 is associated with the progression of non-small cell lung cancer. *Tumour Biol.* 2015 Jun;36(6):4583-9.
 51. Yu F, Guo Y, Chen B, Dong P, Zheng J. MicroRNA-17-5p activates hepatic stellate cells through targeting of Smad7. *Lab Invest.* 2015 Jul;95(7):781-9.
 52. Ye X, Han Y, Zhang L, Liu W, Zuo J. MTERF4 regulates the mitochondrial dysfunction induced by MPP(+) in SH-SY5Y cells. *Biochem Biophys Res Commun.* 2015 Aug 14;464(1):214-20.
 53. Chen Y, Zhang W, Huang Y, Gao F, Sha X, Fang X. Pluronic-based functional polymeric mixed micelles for co-delivery of doxorubicin and paclitaxel to multidrug resistant tumor. *Int J Pharm.* 2015 Jul 5;488(1-2):44-58.
 54. Meng H, Wang K, Chen X, Guan X, Hu L, Xiong G, Li J, Bai Y. MicroRNA-330-3p functions as an oncogene in human esophageal cancer by targeting programmed cell death 4. *Am J Cancer Res.* 2015 Feb 15;5(3):1062-75.
 55. Qian W, Kang L, Zhang T, Meng M, Wang Y, Li Z, Xia Q, Cheng D. Ecdysone receptor (EcR) is involved in the transcription of cell cycle genes in the silkworm. *Int J Mol Sci.* 2015 Feb 3;16(2):3335-49.
 56. Wang AT, Liang DS, Liu YJ, Qi XR. Roles of ligand and TPGS of micelles in regulating internalization, penetration and accumulation against sensitive or resistant tumor and therapy for multidrug resistant tumors. *Biomaterials.* 2015 Jun;53:160-72.
 57. Han Y, Zhao H, Jiang Q, Gao H, Wang C. Chemopreventive mechanism of polypeptides from *Chlamydomonas* (PCF) against UVB-induced malignant transformation of HaCaT cells. *Mutagenesis.* 2015 Mar;30(2):287-96.
 58. Zhou B, Yang J, Shu B, Liu K, Xue L, Su N, Liu J, Xi T. Overexpression of astrocyte-elevated gene-1 is associated with ovarian cancer development and progression. *Mol Med Rep.* 2015 Apr;11(4):2981-90.
 59. Gao L, Wang Y, Xu Z, Li X, Wu J, Liu S, Chu P, Sun Z, Sun B, Lin Y, Peng J, Han G, Wang S, Tang Z. SZC017, a novel oleanolic acid derivative, induces apoptosis and autophagy in human breast cancer cells. *Apoptosis.* 2015 Dec;20(12):1636-50.
 60. Ma S, Yang LL, Niu T, Cheng C, Zhong L, Zheng MW, Xiong Y, Li LL, Xiang R, Chen LJ, Zhou Q, Wei YQ, Yang SY. SKLB-67, an FLT3 and Wnt/ β -catenin signaling inhibitor, displays potent activity in models of FLT3-driven AML. *Sci Rep.* 2015 Oct 26;5:15646.
 61. Zhang D, Wang J, Wang Z, Zhang T, Shi P, Wang X, Zhao F, Liu X, Lin X, Pang X. miR-136 modulates TGF- β 1-induced proliferation arrest by targeting PPP2R2A in keratinocytes. *Biomed Res Int.* 2015;2015:453518.
 62. Liang Z, Li S, Xu X, Wang X, Wu J, Zhu Y, Hu Z, Lin Y, Mao Y, Chen H, Luo J, Liu B, Zheng X, Xie L. MicroRNA-576-3p inhibits proliferation in bladder cancer cells by targeting cyclin D1. *Mol Cells.* 2015;38(2):130-7.
 63. Wang J, Zhao YM, Zhang B, Guo CY. Protective Effect of Total Phenolic Compounds from *Inula helenium* on Hydrogen Peroxide-induced Oxidative Stress in SH-SY5Y Cells. *Indian J Pharm Sci.* 2015 Mar-Apr;77(2):163-9.
 64. Xu T, Ni MM, Xing-Li, Li XF, Meng XM, Huang C, Li J. NLRC5 regulates TGF- β 1-induced proliferation and activation of hepatic stellate cells during hepatic fibrosis. *Int J Biochem Cell Biol.* 2016 Jan;70:92-104.
 65. Bao W, Gu Y, Ta L, Wang K, Xu Z. Induction of autophagy by the MG132 proteasome inhibitor is associated with endoplasmic reticulum stress in MCF7 cells. *Mol Med Rep.* 2016 Jan;13(1):796-804.
 66. Wu Y, Shu J, He C, Li M, Wang Y, Ou W, He Y. ROCK inhibitor Y27632 promotes proliferation and diminishes apoptosis of marmoset induced pluripotent stem cells by suppressing expression and activity of caspase 3. *Theriogenology.* 2016 Jan 15;85(2):302-14.
 67. Liu J, Wang H, Wang B, Chen T, Wang X, Huang P, Xu L, Guo Z. Microcystin-LR promotes proliferation by activating Akt/S6K1 pathway and disordering apoptosis and cell cycle associated proteins phosphorylation in HL7702 cells. *Toxicol Lett.* 2016 Jan 5;240(1):214-25.
 68. Li X, Li T, Chen D, Zhang P, Song Y, Zhu H, Xiao Y, Xing Y. Overexpres

- sion of lysine-specific demethylase 1 promotes androgen-independent transition of human prostate cancer LNCaP cells through activation of the AR signaling pathway and suppression of the p53 signaling pathway. *Oncol Rep.* 2016 Jan;35(1):584-92.
69. Wei L, Deng W, Cheng Z, Guo H, Wang S, Zhang X, He Y, Tang Q. Effects of hesperetin on platelet-derived growth factor-BB-induced pulmonary artery smooth muscle cell proliferation. *Mol Med Rep.* 2016 Jan;13(1):95-100.
 70. Yu LT, Yang MQ, Liu JL, Alfred MO, Li X, Zhang XQ, Zhang J, Wu M Y, Wang M, Luo C. Recombinant Reg3 α protein protects against experimental acute pancreatitis in mice. *Mol Cell Endocrinol.* 2016 Feb;422(15):150-9.
 71. Huang Z, Huang X, Jiang D, Zhang Y, Huang B, Luo G. Dihydroartemisinin inhibits cell proliferation by induced G1 arrest and apoptosis in human nasopharyngeal carcinoma cells. *J Cancer Res Ther.* 2016 Jan-Mar;12(1):244-7.
 72. Li X, Li T, Chen D, Zhang P, Song Y, Zhu H, Xiao Y, Xing Y. Overexpression of lysine-specific demethylase 1 promotes androgen-independent transition of human prostate cancer LNCaP cells through activation of the AR signaling pathway and suppression of the p53 signaling pathway. *Oncol Rep.* 2016 Jan;35(1):584-92.
 73. Wang D, Zhao Y, Wang Y, Rong Y, Qin H, Bao Y, Song Z, Yu C, Sun L, Li Y. 25-methoxyl-dammarane-3 β , 12 β , 20-triol and artemisinin synergistically inhibit MDA-MB-231 cell proliferation through downregulation of testes-specific protease 50 (TSP50) expression. *Tumour Biol.* 2016 Sep;37(9):11805-11813.
 74. Liu J, Wang H, Wang B, Chen T, Wang X, Huang P, Xu L, Guo Z. Microcystin-LR promotes proliferation by activating Akt/S6K1 pathway and disordering apoptosis and cell cycle associated proteins phosphorylation in HL7702 cells. *Toxicol Lett.* 2016 Jan 5;240(1):214-25.
 75. Mi XG, Song ZB, Sun LG, Bao YL, Yu CL, Wu Y, Li YX. Cardamonin inhibited cell viability and tumorigenesis partially through blockade of testes-specific protease 50-mediated nuclear factor-kappaB signaling pathway activation. *Int J Biochem Cell Biol.* 2016 Apr;73:63-71.
 76. Jiao Y, Ma S, Wang Y, Li J, Shan L, Sun J, Chen J. Methacryloxyethyl Cetyl Ammonium Chloride Induces DNA Damage and Apoptosis in Human Dental Pulp Cells via Generation of Oxidative Stress. *Int J Biol Sci.* 2016 Mar 21;12(5):580-93.
 77. Ding L, Wang S, Wang W, Lv P, Zhao D, Chen F, Meng T, Dong L, Qi L. Tanshinone IIA Affects Autophagy and Apoptosis of Glioma Cells by Inhibiting Phosphatidylinositol 3-Kinase/Akt/Mammalian Target of Rapamycin Signaling Pathway. *Pharmacology.* 2016 Nov 26;99(3-4):188-195.
 78. Wu Y, Shu J, He C, Li M, Wang Y, Ou W, He Y. ROCK inhibitor Y27632 promotes proliferation and diminishes apoptosis of marmoset induced pluripotent stem cells by suppressing expression and activity of caspase 3. *Theriogenology.* 2016 Jan 15;85(2):302-14.
 79. Wang Q, Wang Y, Xing Y, Yan Y, Guo P, Zhuang J, Qin F, Zhang J. Physcion 8-O- β -glucopyranoside induces apoptosis, suppresses invasion and inhibits epithelial to mesenchymal transition of hepatocellular carcinoma HepG2 cells. *Biomed Pharmacother.* 2016 Oct;83:372-380.
 80. Pang MJ, Yang Z, Zhang XL, Liu ZF, Fan J, Zhang HY. Physcion, a naturally occurring anthraquinone derivative, induces apoptosis and autophagy in human nasopharyngeal carcinoma. *Acta Pharmacol Sin.* 2016 Dec;37(12):1623-1640.
 81. Yang JB, Khan M, He YY, Yao M, Li YM, Gao HW, Ma TH. Tubeimoside-1 induces oxidative stress-mediated apoptosis and G0/G1 phase arrest in human prostate carcinoma cells in vitro. *Acta Pharmacol Sin.* 2016 Jul;37(7):950-62.
 82. Wang L, Wu X, Huang P, Lv Z, Qi Y, Wei X, Yang P, Zhang F. JQ1, a small molecule inhibitor of BRD, suppresses cell growth and invasion in oral squamous cell carcinoma. *Oncol Rep.* 2016 Oct;36(4):1989-96.
 83. Gao H, Liu Y, Li K, Wu T, Peng J, Jing F. Hispidulin induces mitochondrial apoptosis in acute myeloid leukemia cells by targeting extracellular matrix metalloproteinase inducer. *Am J Transl Res.* 2016 Feb 15;8(2):1115-32.
 84. Liang YX, Lu JM, Mo RJ, He HC, Xie J, Jiang FN, Lin ZY, Chen YR, Wu YD, Luo HW, Luo Z, Zhong WD. E2F1 promotes tumor cell invasion and migration through regulating CD147 in prostate cancer. *Int J Oncol.* 2016 Apr;48(4):1650-8.
 85. Bao W, Gu Y, Ta L, Wang K, Xu Z. Induction of autophagy by the MG-132 proteasome inhibitor is associated with endoplasmic reticulum stress in MCF-7 cells. *Mol Med Rep.* 2016 Jan;13(1):796-804.
 86. Chen PJ, Cai SP, Yang Y, Li WX, Huang C, Meng XM, Li J. PTP1B confers liver fibrosis by regulating the activation of hepatic stellate cells. *Toxicol Appl Pharmacol.* 2016 Feb 1;292:8-18.
 87. Zhou DD, Wang X, Wang Y, Xiang XJ, Liang ZC, Zhou Y, Xu A, Bi CH, Zhang L. MicroRNA-145 inhibits hepatic stellate cell activation and proliferation by targeting ZEB2 through Wnt/ β -catenin pathway. *Mol Immunol.* 2016 Jul;75:151-60.
 88. Liu T, Yuan X, Jia T, Liu C, Ni Z, Qin Z, Yuan Y. Polymeric prodrug of bufalin for increasing solubility and stability: Synthesis and anticancer study in vitro and in vivo. *Int J Pharm.* 2016 Jun 15;506(1-2):382-93.
 89. Zhang X, Xu J, Jiang T, Liu G, Wang D, Lu Y. MicroRNA-195 suppresses colorectal cancer cells proliferation via targeting FGF2 and regulating Wnt/ β -catenin pathway. *Am J Cancer Res.* 2016 Nov 1;6(11):2631-2640.
 90. Xu T, Ni MM, Xing-Li, Li XF, Meng XM, Huang C, Li J. NLRC5 regulates TGF- β 1-induced proliferation and activation of hepatic stellate cells during hepatic fibrosis. *Int J Biochem Cell Biol.* 2016 Jan;70:92-104.
 91. He YH, Li MF, Zhang XY, Meng XM, Huang C, Li J. NLRC5 promotes cell proliferation via regulating the AKT/VEGF-A signaling pathway in hepatocellular carcinoma. *Toxicology.* 2016 Jun 1;359-360:47-57.
 92. Zhang D, Li Y, Wang R, Li Y, Shi P, Kan Z, Pang X. Inhibition of REST Suppresses Proliferation and Migration in Glioblastoma Cells. *Int J Mol Sci.* 2016 May 3;17(5).
 93. Xiang Y, Song Y, Li Y, Zhao D, Ma L, Tan L. miR-483 is Down-Regulated in Polycystic Ovarian Syndrome and Inhibits KGN Cell Proliferation via Targeting Insulin-Like Growth Factor 1 (IGF1). *Med Sci Monit.* 2016 Sep 23;22:3383-3393.
 94. Li X, Wu XQ, Xu T, Li XF, Yang Y, Li WX, Huang C, Meng XM, Li J. Role of histone deacetylases (HDACs) in progression and reversal of liver fibrosis. *Toxicol Appl Pharmacol.* 2016 Sep 1;306:58-68.
 95. Zhang J, Wang S, Han F, Li J, Yu L, Zhou P, Chen Z, Xue S, Dai C, Li Q. MicroRNA-542-3p suppresses cellular proliferation of bladder cancer cells through post-transcriptionally regulating survivin. *Gene.* 2016 Apr 1;579(2):146-52.
 96. Chang W, Liu M, Xu J, Fu H, Zhou B, Yuan T, Chen P. MiR-377 inhibits the proliferation of pancreatic cancer by targeting Pim-3. *Tumour Biol.* 2016 Nov;37(11):14813-14824.
 97. Ren K, Li Y, Lu H, Li Z, Li Z, Wu K, Li Z, Han X. Long Noncoding RNA HOTAIR Controls Cell Cycle by Functioning as a Competing Endogenous RNA in Esophageal Squamous Cell Carcinoma. *Transl Oncol.* 2016 Dec;9(6):489-497.
 98. Gu F, Hu C, Tai Z, Yao C, Tian J, Zhang L, Xia Q, Gong C, Gao Y, Gao S. Tumour microenvironment-responsive lipoic acid nanoparticles for targeted delivery of docetaxel to lung cancer. *Sci Rep.* 2016 Nov 2;6:36281.
 99. Tu W, Dong C, Konishi T, Kobayashi A, Furusawa Y, Uchihori Y, Xie Y, Dang B, Li W, Shao C. G(2)-M phase-correlative bystander effects are co-mediated by DNA-PKcs and ATM after carbon ion irradiation. *Mutat Res Genet Toxicol Environ Mutagen.* 2016 Jan 1;795:1-6.
 100. Mao H, Tao T, Song D, Liu M, Wang X, Liu X, Shi D. Zedoarandiol Inhibits Platelet-Derived Growth Factor-Induced Vascular Smooth Muscle Cells Proliferation via Regulating AMP-Activated Protein Kinase Signaling Pathway. *Cell Physiol Biochem.* 2016;40(6):1506-20.
 101. Wei L, Deng W, Cheng Z, Guo H, Wang S, Zhang X, He Y, Tang Q. Effects of hesperetin on platelet-derived growth factor-BB-induced pulmonary artery smooth muscle cell proliferation. *Mol Med Rep.* 2016 Jan;13(1):955-60.
 102. Ji S, Ma S, Wang WJ, Huang SZ, Wang TQ, Xiang R, Hu YG, Chen Q, Li LL, Yang SY. Discovery of selective protein arginine methyltransferase 5 inhibitors and biological evaluations. *Chem Biol Drug Des.* 2016 Oct 7. doi: 10.1111/cbdd.12881.
 103. Zhu JJ, Zhang XX, Miao YQ, He SF, Tian DM, Yao XS, Tang JS, Gan Y. Delivery of acetylated thevetin B, an antitumor cardiac glycoside, using polymeric micelles for enhanced therapeutic efficacy against lung cancer cells. *Acta Pharmacol Sin.* 2017 Feb;38(2):290-300.
 104. Yang Y, Dong Q, Li R. Matrine induces the apoptosis of fibroblast-like synoviocytes derived from rats with collagen-induced arthritis by suppressing the activation of the JAK/STAT signaling pathway. *Int J Mol Med.* 2017 Feb;39(2):307-316.
 105. Zu G, Yao J, Ji A, Ning S, Luo F, Li Z, Feng D, Rui Y, Li Y, Wang

- G, Tian X. Nurrl promotes intestinal regeneration after ischemia/reperfusion injury by inhibiting the expression of p21 (Waf1/Cip1). *J Mol Med (Berl)*. 2017 Jan;95(1):83-95.
106. Gang X, Qian W, Zhang T, Yang X, Xia Q, Cheng D. Aurora B kinase is required for cell cycle progression in silkworm. *Gene*. 2017 Jan 30;599:60-67.
107. Chen Q, Weng Z, Lu Y, Jia Y, Ding L, Bai F, Ge M, Lin Q, Wu K. An Experimental Analysis of the Molecular Effects of Trastuzumab (Herceptin) and Fulvestrant (Falsodex), as Single Agents or in Combination, on Human HR+/HER2+ Breast Cancer Cell Lines and Mouse Tumor Xenografts. *PLoS One*. 2017 Jan 3;12(1):e0168960.
108. Xiong N, Li S, Tang K, Bai H, Peng Y, Yang H, Wu C, Liu Y. Involvement of caveolin-1 in low shear stress-induced breast cancer cell motility and adhesion: Roles of FAK/Src and ROCK/p-MLC pathways. *Biochim Biophys Acta*. 2017 Jan;1864(1):12-22.
109. Qiao L, Liu X, Tang Y, Zhao Z, Zhang J, Feng Y. Down regulation of the long non-coding RNA PCAT-1 induced growth arrest and apoptosis of colorectal cancer cells. *Life Sci*. 2017 Nov 1;188:37-44.
110. Mei Y, Peng C, Liu YB, Wang J, Zhou HH. Silencing RIF1 decreases cell growth, migration and increases cisplatin sensitivity of human cervical cancer cells. *Oncotarget*. 2017 Nov 6;8(63):107044-107051.
111. Chen Q, Weng Z, Lu Y, Jia Y, Ding L, Bai F, Ge M, Lin Q, Wu K. An Experimental Analysis of the Molecular Effects of Trastuzumab (Herceptin) and Fulvestrant (Falsodex), as Single Agents or in Combination, on Human HR+/HER2+ Breast Cancer Cell Lines and Mouse Tumor Xenografts. *PLoS One*. 2017 Jan 3;12(1):e0168960.
112. Gao L, Chen B, Li J, Yang F, Cen X, Liao Z, Long X. Wnt/ β -catenin signaling pathway inhibits the proliferation and apoptosis of U87 glioma cells via different mechanisms. *PLoS One*. 2017 Aug 24;12(8):e0181346.
113. Sun L, Dong Y, Zhao J, Yin Y, Tong B, Zheng Y, Xin H. NPPB modulates apoptosis, proliferation, migration and extracellular matrix synthesis of conjunctival fibroblasts by inhibiting PI3K/AKT signaling. *Int J Mol Med*. 2017 Dec 15.
114. Wang L, Wu X, Wang R, Yang C, Li Z, Wang C, Zhang F, Yang P. BRD4 inhibition suppresses cell growth, migration and invasion of salivary adenoid cystic carcinoma. *Biol Res*. 2017 May 25;50(1):19.
115. Wu F, Cao W, Xu H, Zhu M, Wang J, Ke X. Treatment with a selenium-platinum compound induced T-cell acute lymphoblastic leukemia/lymphoma cells apoptosis through the mitochondrial signaling pathway. *Oncol Lett*. 2017 Mar;13(3):1702-1710.
116. Gang X, Qian W, Zhang T, Yang X, Xia Q, Cheng D. Aurora B kinase is required for cell cycle progression in silkworm. *Gene*. 2017 Jan 30;599:60-67.
117. Mo RJ, Lu JM, Wan YP, Hua W, Liang YX, Zhuo YJ, Kuang QW, Liu YL, He HC, Zhong WD. Decreased HoxD10 Expression Promotes a Proliferative and Aggressive Phenotype in Prostate Cancer. *Curr Mol Med*. 2017;17(1):70-78.
118. Yang Y, Dong Q, Li R. Matrine induces the apoptosis of fibroblast-like synoviocytes derived from rats with collagen-induced arthritis by suppressing the activation of the JAK/STAT signaling pathway. *Int J Mol Med*. 2017 Feb;39(2):307-316.
119. Wu Y, Bu F, Yu H, Li W, Huang C, Meng X, Zhang L, Ma T, Li J. Methylation of Septin9 mediated by DNMT3a enhances hepatic stellate cells activation and liver fibrogenesis. *Toxicol Appl Pharm*. 2017 Jan 15;315:35-49.
120. Xia S, Wang C, Ni X, Ni Z, Dong Y, Zhan W. NONHSAT076754 aids ultrasonography in predicting lymph node metastasis and promotes migration and invasion of papillary thyroid cancer cells. *Oncotarget*. 2017 Jan 10;8(2):2293-2306.
121. Zu G, Yao J, Ji A, Ning S, Luo F, Li Z, Feng D, Rui Y, Li Y, Wang G, Tian X. Nurrl promotes intestinal regeneration after ischemia/reperfusion injury by inhibiting the expression of p21 (Waf1/Cip1). *J Mol Med*. 2017 Jan;95(1):83-95.
122. Yang Y, Du J, Liu F, Wang X, Li X, Li Y. Role of caspase-3/E-cadherin in helicobacter pylori-induced apoptosis of gastric epithelial cells. *Oncotarget*. 2017 Jul 22;8(35):59204-59216.
123. Mu W, Wang Z, Ma C, Jiang Y, Zhang N, Hu K, Li L, Wang Z. Metformin promotes the proliferation and differentiation of murine preosteoblast by regulating the expression of sirt6 and oct4. *Pharmacol Res*. 2017 Nov 21. pii: S1043-6618(17)30545-5.
124. Jiang S, Huang Y, Qi Y, He R, Liu Z, Ma Y, Guo X, Shao Y, Sun Z, Ruan Q. Human cytomegalovirus miR-US5-1 inhibits viral replication by targeting Geminin mRNA. *Virol Sin*. 2017 Oct;32(5):431-439.
125. Hu B, Lv X, Gao F, Chen S, Wang S, Qing X, Liu J, Wang B, Shao Z. Downregulation of DEPTOR inhibits the proliferation, migration, and survival of osteosarcoma through PI3K/Akt/mTOR pathway. *Oncotargets Ther*. 2017 Sep 8;10:4379-4391.
126. Ding L, Ding L, Wang S, Wang S, Wang W, Lv P, Lv P, Zhao D, Zhao D, Chen F, Meng T, Meng T, Dong L, Dong L, Qi L, Qi L. Tanshinone IIA Affects Autophagy and Apoptosis of Glioma Cells by Inhibiting Phosphatidylinositol 3-Kinase/Akt/Mammalian Target of Rapamycin Signaling Pathway. *Pharmacology*. 2017;99(3-4):188-195.
127. Jian Y, Gao W, Geng C, Zhou H, Leng Y, Li Y, Chen W. Arsenic trioxide potentiates sensitivity of multiple myeloma cells to lenalidomide by upregulating cereblon expression levels. *Oncol Lett*. 2017 Sep;14(3):3243-3248.
128. Wang F, Jiang J, Hu S, Ma H, Zhu H, Tong Q, Cheng L, Hao X, Zhang G, Zhang Y. Secondary metabolites from endophytic fungus *Chaetomium* sp. induce colon cancer cell apoptotic death. *Fitoterapia*. 2017 Sep;121:86-93.
129. Yang Y, Xia S, Ni X, Ni Z, Zhang L, Wang W, Kong Y, Wang Y, Ye L, Zhan W. MiR-324-5p assists ultrasonography in predicting lymph node metastasis of unifocal papillary thyroid microcarcinoma without extracapsular spread. *Oncotarget*. 2017 Jul 31;8(48):83802-83816.
130. Zou M, Li Y, Xia S, Chu Q, Xiao X, Qiu H, Chen Y, Zheng Z, Liu F, Zhuang L, Yu S. Knockdown of CAVEOLIN-1 Sensitizes Human Basal-Like Triple-Negative Breast Cancer Cells to Radiation. *Cell Physiol Biochem*. 2017;44(2):778-791.
131. Zhao W, Peng F, Shu M, Liu H, Hou X, Wang X, Ye J, Zhao B, Wang K, Zhong C, Xue L, Gao M, Liu Y, Zhao S. Isogambogenic Acid Inhibits the Growth of Glioma Through Activation of the AMPK-mTOR Pathway. *Cell Physiol Biochem*. 2017;44(4):1381-1395.
132. Li L, Wang P, Hu K, Wang X, Cai W, Ai C, Liu S, Wang Z. PFMG1 promotes osteoblast differentiation and prevents osteoporotic bone loss. *Faseb J*. 2017 Oct 11. pii: fj.201700422R.
133. Zhao Y, Jia Z, Huang S, Wu Y, Liu L, Lin L, Wang D, He Q, Ruan D. Age-Related Changes in Nucleus Pulposus Mesenchymal Stem Cells: An In Vitro Study in Rats. *Stem Cells Int*. 2017;2017:6761572.
134. Capn4 Enhances Osteopontin Expression through Activation of the Wnt/ β -Catenin Pathway to Promote Epithelial Ovarian Carcinoma Metastasis. *Cell Physiol Biochem*. 2017;42(1):185-197.
135. Ji S, Ma S, Wang WJ, Huang SZ, Wang TQ, Xiang R, Hu YG, Chen Q, Li LL, Yang SY. Discovery of selective protein arginine methyltransferase 5 inhibitors and biological evaluations. *Chem Biol Drug Des*. 2017 Apr;89(4):585-598.
136. Lin L, Jia Z, Zhao Y, Wu Y, Zhao X, Li Y, Guo Z, Chen J, Cheng S, Wang D, Ruan D. Use of Limiting Dilution Method for Isolation of Nucleus Pulposus Mesenchymal Stem/Progenitor Cells and Effects of Plating Density on Biological Characteristics and Plasticity. *Biomed Res Int*. 2017;2017:9765843.
137. Yao Q, Cai G, Yu Q, Shen J, Gu Z, Chen J, Shi W, Shi J. IDH1 mutation diminishes aggressive phenotype in glioma stem cells. *Int J Oncol*. 2018 Jan;52(1):270-278.
138. Yang D, Luo W, Wang J, Zheng M, Liao XH, Zhang N, Lu W, Wang L, Chen AZ, Wu WG, Liu H, Wang SB, Zhou XZ, Lu KP. A novel controlled release formulation of the Pin1 inhibitor ATRA to improve liver cancer therapy by simultaneously blocking multiple cancer pathways. *J Control Release*. 2018 Jan 10;269:405-422.
139. Zhang C, Yuan J, Hu H, Chen W, Liu M, Zhang J, Sun S, Guo Z. Long non-coding RNA CHCHD4P4 promotes epithelial-mesenchymal transition and inhibits cell proliferation in calcium oxalate-induced kidney damage. *Braz J Med Biol Res*. 2017 Nov 13;51(1):e6536.
140. Feng W, Wang C, Liang C, Yang H, Chen D, Yu X, Zhao W, Geng D, Li S, Chen Z, Sun M. The Dysregulated Expression of KCNQ10T1 and Its Interaction with Downstream Factors miR-145/CCNE2 in Breast Cancer Cells. *Cell Physiol Biochem*. 2018;49(2):432-446.
141. Sun Q, Qing W, Qi R, Zou M, Gong L, Liu Y, Li DW. Inhibition of Sumoylation Alleviates Oxidative Stress-induced Retinal Pigment Epithelial Cell Senescence and Represses Proinflammatory Gene Expression. *Curr Mol Med*. 2018;18(9):575-583.
142. Chen JM, Zhang J, Xia YM, Wang XX, Li J. The natural sweetener metabolite steviol inhibits the proliferation of human osteosarcoma U2OS cell line. *Oncol Lett*. 2018 Apr;15(4):5250-5256.
143. Wang Y, Li J, Kuang D, Wang X, Zhu Y, Xu S, Chen Y, Cheng H, Zhao

- Q,Duan Y,Wang GmiR-148b-3p functions as a tumor suppressor in GISTs by directly targeting KIT. *Cell Commun Signal* . 2018 Apr 16;16(1):16.
- 144.Li L,Wang Y,Zhang X,Song G,Guo Q,Zhang Z,Diao Y,Yin H,Liu H,Jiang GDeubiquitinase USP48 promotes ATRA-induced granulocytic differentiation of acute promyelocytic leukemia cells. *Int J Oncol* . 2018 Aug;53(2):895-903.
- 145.Luo Z,Luo W,Li S,Zhao S,Sho T,Xu X,Zhang J,Xu W,Xu JReactive oxygen species mediated placental oxidative stress, mitochondrial content, and cell cycle progression through mitogen-activated protein kinases in intrauterine growth restricted pigs. *Reprod Biol* . 2018 Dec;18(4):422-431.
- 146.Chen Q,Hang Y,Zhang T,Tan L,Li S,Jin YUSP10 promotes proliferation and migration and inhibits apoptosis of endometrial stromal cells in endometriosis through activating the Raf-1/MEK/ERK pathway. *Am J Physiol-cell Ph* . 2018 Dec 1;315(6):C863-C872.
- 147.Deng A,Zhang H,Hu M,Liu S,Wang Y,Gao Q,Guo CThe inhibitory roles of Ihh downregulation on chondrocyte growth and differentiation. *Exp Ther Med* . 2018 Jan;15(1):789-794.
- 148.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.
- 149.Zhang H,Nan W,Wang S,Si H,Li GBalance between fibroblast growth factor 10 and secreted frizzled-relate protein-1 controls the development of hair follicle by competitively regulating β -catenin signaling. *Biomed Pharmacother* . 2018 Jul;103:1531-1537.
- 150.Chen Y,Zhuang H,Chen X,Shi Z,Wang X.Spermidine-induced growth inhibition and apoptosis via autophagic activation in cervical cancer. *Oncol Rep* . 2018 Jun;39(6):2845-2854.
- 151.Song Y,Xu K,Yu C,Dong L,Chen P,Lv Y,Chiang MYM,Li L,Liu W,Yang L. The use of mechano growth factor to prevent cartilage degeneration in knee osteoarthritis. *J Tissue Eng Regen M* . 2018 Mar;12(3):738-749.
- 152.Gong J,Guan L,Tian P,Li C,Zhang YRho Kinase Type 1 (ROCK1) Promotes Lipopolysaccharide-induced Inflammation in Corneal Epithelial Cells by Activating Toll-Like Receptor 4 (TLR4)-Mediated Signaling. *Med Sci Monitor* . 2018 May 27;24:3514-3523.
- 153.Tang J,Wang Z,Liu J,Zhou C,Chen JDownregulation of 5-hydroxytryptamine receptor 3A expression exerts an anticancer activity against cell growth in colorectal carcinoma cells in vitro. *Oncol Lett* . 2018 Nov;16(5):6100-6108.
- 154.Cui D,Zhao Y,Xu JActivation of CXCL5-CXCR2 axis promotes proliferation and accelerates G1 to S phase transition of papillary thyroid carcinoma cells and activates JNK and p38 pathways. *Cancer Biol Ther* . 2018 Nov 7:1-9.
- 155.Wang P,Lu YC,Li YF,Wang L,Lee SC. Advanced Glycation End Products Increase MDM2 Expression via Transcription Factor KLF5. *J Diabetes Res* . 2018 Sep 9;2018:3274084.
- 156.Luo Z,Xu X,Sho T,Zhang J,Xu W,Yao J,Xu JROS-induced autophagy regulates porcine trophectoderm cell apoptosis, proliferation, and differentiation. *Am J Physiol-Cell PH* . 2019 Feb 1;316(2):C198-C209.

Version 2020.03.16