

JC-1

产品编号	产品名称	包装
C2005	JC-1	1mg

产品简介:

- JC-1也称CBIC2(3)或5,5',6,6'-Tetrachloro-1,1',3,3'-tetraethyl-imidacarbocyanine iodide, 分子式为 $C_{25}H_{27}Cl_4IN_4$, 分子量为652.23, CAS Number 3520-43-2, 纯度>95%。
- JC-1是一种广泛用于检测线粒体膜电位(mitochondrial membrane potential) $\Delta\Psi_m$ 的理想荧光探针。可以检测细胞、组织或纯化的线粒体膜电位。在线粒体膜电位较高时, JC-1聚集在线粒体的基质(matrix)中, 形成聚合物(J-aggregates), 可以产生红色荧光; 在线粒体膜电位较低时, JC-1不能聚集在线粒体的基质中, 此时JC-1为单体(monomer), 可以产生绿色荧光。这样就可以非常方便地通过荧光颜色的转变来检测线粒体膜电位的变化。常用红绿荧光的相对比例来衡量线粒体去极化的比例。
- 线粒体膜电位的下降是细胞凋亡早期的一个标志性事件。通过JC-1从红色荧光到绿色荧光的转变可以很容易地检测到细胞膜电位的下降, 同时也可以利用JC-1从红色荧光到绿色荧光的转变作为细胞凋亡早期的一个检测指标。JC-1检测线粒体膜电位的效果参考图1。

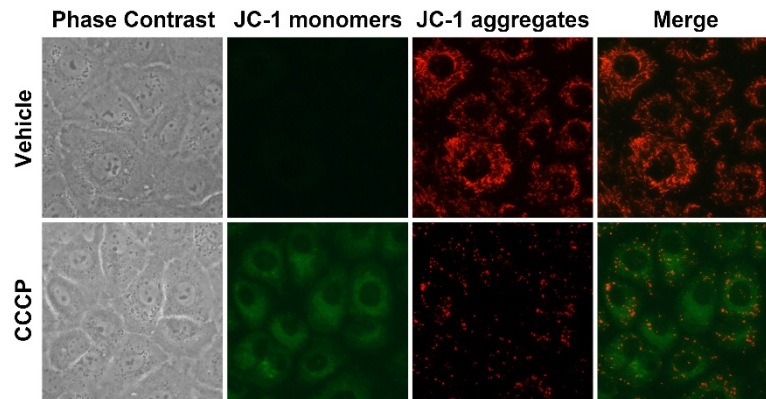


图1. JC-1检测NRK-52E细胞(大鼠肾小管上皮细胞)线粒体膜电位的效果图。正常的NRK-52E细胞线粒体中JC-1以聚合物形式存在, 呈明亮的红色荧光, 细胞中的绿色荧光非常弱; 使用CCCP处理使线粒体膜电位下降后, JC-1不能以聚合物形式存在于线粒体基质中, 此时线粒体内红色荧光强度显著降低, 而细胞浆中的绿色荧光显著增强。

- JC-1单体的最大激发波长为514nm, 最大发射波长为529nm; JC-1聚合物(J-aggregates)的最大激发波长为585nm, 最大发射波长为590nm。实际观察时, 使用常规的观察红色荧光和绿色荧光的设置即可。JC-1单体和聚合物的激发光和发射光光谱参考图2。

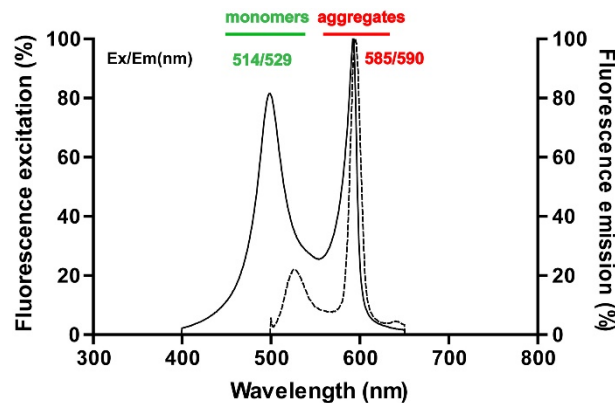


图2. JC-1单体和聚合物的激发光和发射光光谱。

- JC-1稀释和使用时有一些特殊的要求, 因此对于初次使用JC-1的用户或对于JC-1的使用不是非常熟悉的用户, 我们建议使用碧云天的线粒体膜电位检测试剂盒(JC-1)(C2006), 该试剂盒配套提供了一些相关试剂, 使用起来更加便捷。
- 本JC-1溶解在DMSO中, 浓度为5mg/ml, 共200 μ l。

包装清单:

产品编号	产品名称	包装
C2005	JC-1 (5mg/ml)	50 μ l/管, 共4管
—	说明书	1份

保存条件:

-20°C 避光保存。

注意事项:

- JC-1如果一次使用量较小, 需把每管再适当进行分装, 尽量避免反复冻融。
- JC-1在4°C、冰浴等较低温度情况下会凝固而粘在离心管管底、管壁或管盖内, 可以20-25°C水浴温育片刻至全部融解后使用。
- 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:

JC-1用于检测细胞的线粒体膜电位时常用的浓度范围为1-20 μ g/ml, 对于很多细胞适宜采用的JC-1浓度为10 μ g/ml。详细的使用方法请参考相关文献资料。

使用本产品的文献:

- Xu Z, Lin S, Wu W, Tan H, Wang Z, Cheng C, Lu L, Zhang X. Ghrelin prevents doxorubicin-induced cardiotoxicity through TNF-alpha/NF-kappaB pathways and mitochondrial protective mechanisms. *Toxicology*. 2008 May 21;247(2-3):133-8.
- Wang Z, Tang X, Li Y, Leu C, Guo L, Zheng X, Zhu D. 20-Hydroxyeicosatetraenoic acid inhibits the apoptotic responses in pulmonary artery smooth muscle cells. *Eur J Pharmacol*. 2008 Jun 24;588(1):9-17.
- Li Y, Li Q, Wang Z, Liang D, Liang S, Tang X, Guo L, Zhang R, Zhu D. 15-HETE suppresses K(+) channel activity and inhibits apoptosis in pulmonary artery smooth muscle cells. *Apoptosis*. 2009 Jan;14(1):42-51.
- Chen K, Zhang Q, Wang J, Liu F, Mi M, Xu H, Chen F, Zeng K. Taurine protects transformed rat retinal ganglion cells from hypoxia-induced apoptosis by preventing mitochondrial dysfunction. *Brain Res*. 2009 Jul 7;1279:131-8.
- Su X, Zheng X, Ni J. Lanthanum citrate induces anoikis of HeLa cells. *Cancer Lett*. 2009 Nov 28;285(2):200-9.
- Wu F, Wang J, Wang Y, Kwok T, Kong S, Wong C. Estrogen-related receptor alpha (ERRalpha) inverse agonist XCT-790 induces cell death in chemotherapeutic resistant cancer cells. *Chemo-Biological Interactions*. 2009 Oct 7;181(2):236-42.
- Zhang SH, Wang WQ, Wang JL. Protective effect of tetrahydroxystilbene glucoside on cardiotoxicity induced by doxorubicin in vitro and in vivo. *Acta Pharmacol Sin*. 2009;30(11):1479-87.
- Zhang L, Ma J, Li Y, Guo L, Ran Y, Liu S, Jiang C, Zhu D. 15-Hydroxyeicosatetraenoic acid (15-HETE) protects pulmonary artery smooth muscle cells against apoptosis via HSP90. *Life Sci*. 2010;87(7-8):223-31.
- Wang S, Wang Y, Jiang J, Wang R, Li L, Qiu Z, Wu H, Zhu D. 15-HETE protects rat pulmonary arterial smooth muscle cells from apoptosis via the PI3K/Akt pathway. *Prostaglandins Other Lipid Mediat*. 2010;91(1-2):51-60.
- Li Q, Cheng J, Peng C, Li Z, Shi S, Liang H, Tian Y, Zhang Z, Cao W. Apoptosis of vascular smooth muscle cells induced by photodynamic therapy with protoporphyrin IX. *Biochem Biophys Res Commun*. 2010;391(1):69-72.
- Fan X, Luo G, Yang D, Ming M, Liu H, Pu P, Le W. Critical role of lysosome and its associated protein cathepsin D in manganese-induced toxicity in cultured midbrain astrocyte. *Neurochem Int*. 2010;56(2):291-300.
- Wang H, Chen XX, Wang LR, Mao YD, Zhou ZM, Sha JH. AF-2364 is a prospective spermicide candidate. *Asian J Androl*. 2010;12(3):322-35.
- Wu J, Sun J, Xue Y. Involvement of JNK and P53 activation in G2/M cell cycle arrest and apoptosis induced by titaniumdioxide nanoparticles in neuron cells. *Toxicol Lett*. 2010 Dec 15;199(3):269-76.
- Wei H, Li Z, Hu S, Chen X, Cong X. Apoptosis of mesenchymal stem cells induced by hydrogen peroxide concerns both endoplasmicreticulum stress and mitochondrial death pathway through regulation of caspases, p38 and JNK. *J Cell Biochem*. 2010 Nov 1;111(4):967-78.
- Zhang CM, Zeng XQ, Zhang R, Ji CB, Tong ML, Chi X, Li XL, Dai JZ, Zhang M, Cui Y, Guo XR. Effects of NYGGF4 knockdown on insulin sensitivity and mitochondrial function in 3T3-L1 adipocytes. *J Bioenerg Biomembr*. 2010 Oct;42(5):433-9.
- Shen L, Lan Z, Sun X, Shi L, Liu Q, Ni J. Proteomic analysis of lanthanum citrate-induced apoptosis in human cervical carcinoma SiHacells. *Biomaterials*. 2010 Dec;23(6):1179-89.
- Peng X, Wang K, Hu C, Zhu Y, Wang T, Yang J, Tong J, Li S, Zhu Y. The mitochondrial gene orfH79 plays a critical role in impairing both male gametophyte development and root growth in CMS-Honglian rice. *BMC Plant Biol*. 2010 Jun 24;10:125.
- Zhang M, Sun C, Shan X, Yang X, Li-Ling J, Deng Y. Inhibition of pancreatic cancer cell growth by cucurbitacin B through modulation of signaltransducer and activator of transcription 3 signaling. *Pancreas*. 2010 Aug;39(6):923-9.
- Zhu MT, Wang Y, Feng WY, Wang B, Wang M, Ouyang H, Chai ZF. Oxidative stress and apoptosis induced by iron oxide nanoparticles in cultured human umbilicalendothelial cells. *J Nanosci Nanotechnol*. 2010 Dec;10(12):8584-90.
- He J, Yang D, Wang C, Liu W, Liao J, Xu T, Bai C, Chen J, Lin K, Huang C, Dong Q. Chronic zebrafish low dose decabrominated diphenyl ether (BDE-209) exposure affected parentalgonad development and locomotion in F1 offspring. *Ecotoxicology*. 2011 Nov;20(8):1813-22.
- Shu D, Qing Y, Tong Q, He Y, Xing Z, Zhao Y, Li Y, Wei Y, Huang W, Wu X. Deltonin isolated from *Dioscorea zingiberensis* inhibits cancer cell growth through inducingmitochondrial apoptosis and suppressing Akt and mitogen activated protein kinase signals. *Biol Pharm Bull*. 2011;34(8):1231-9.
- Li W, Nie S, Chen Y, Wang Y, Li C, Xie M. Enhancement of cyclophosphamide-induced antitumor effect by a novel polysaccharide from *Ganoderma atrum* in sarcoma 180-bearing mice. *J Agric Food Chem*. 2011 Apr 27;59(8):3707-16.
- Xu HN, Huang WD, Cai Y, Ding M, Gu JF, Wei N, Sun LY, Cao X, Li HG, Zhang KJ, Liu XR, Liu XY. HCCS1-armed, quadruple-regulated oncolytic adenovirus specific for liver cancer as a cancertargeting gene-viro-therapy strategy. *Mol Cancer*. 2011 Nov 1;10:133.
- Gao Y, Su Y, Qu L, Xu S, Meng L, Cai SQ, Shou C. Mitochondrial apoptosis contributes to the anti-cancer effect of *Smilax glabra* Roxb. *Toxicol Lett*. 2011 Nov 30;207(2):112-20.
- Han M, Diao YY, Jiang HL, Ying XY, Chen DW, Liang WQ, Gao JQ. Molecular mechanism study of chemosensitization of doxorubicin-resistant human myelogenousleukemia cells induced by a composite polymer micelle. *Int J Pharm*. 2011 Nov 28;420(2):404-11.
- Li WJ, Chen Y, Nie SP, Xie MY, He M, Zhang SS, Zhu KX. *Ganoderma atrum* polysaccharide induces anti-tumor activity via the mitochondrial apoptotic pathway related to activation of host immune response. *J Cell Biochem*. 2011 Mar;112(3):860-71.
- Fu L, Liu Q, Shen L, Wang Y. Proteomic study on sodium selenite-induced apoptosis of human cervical cancer HeLa cells. *J Trace Elem Med Biol*. 2011 Jul;25(3):130-7.
- Rao J, Xu DR, Zheng FM, Long ZJ, Huang SS, Wu X, Zhou WH, Huang RW, Liu Q. Curcumin reduces expression of Bcl-2, leading to apoptosis in daunorubicin-insensitive CD34+acute myeloid leukemia cell lines and primary sorted CD34+ acute myeloid leukemia cells. *J Transl Med*. 2011 May 19;9:71.
- Zhang Q, Zou P, Zhan H, Zhang M, Zhang L, Ge RS, Huang Y. Dihydroliipoamide dehydrogenase and cAMP are associated with cadmium-mediated Leydig celldamage. *Toxicol Lett*. 2011 Aug 28;205(2):183-9.
- Xu L, Deng Y, Feng L, Li D, Chen X, Ma C, Liu X, Yin J, Yang M, Teng F, Wu W, Guan S, Jiang B, Guo D. Cardio-protection of salivianolic acid B through inhibition of apoptosis network. *PLoS One*. 2011;6(9):e24036.
- Wei A, Zhou D, Xiong C, Cai Y, Ruan J. A novel non-aromatic B-ring flavonoid: isolation, structure elucidation and its induction of apoptosis in human colon HT-29 tumor cell via the reactive oxygen species-mitochondrial dysfunction and MAPK activation. *Food Chem Toxicol*. 2011 Sep;49(9):2445-52.
- Meng F, Liu R, Gao M, Wang Y, Yu X, Xuan Z, Sun J, Yang F, Wu C, Du G. Pinocembrin attenuates blood-brain barrier injury induced by global cerebral ischemia-reperfusionin rats. *Brain Res*. 2011 May 19;1391:93-101.
- Nie Y, Han BM, Liu XB, Yang JJ, Wang F, Cong XF, Chen X. Identification of MicroRNAs involved in hypoxia- and serum deprivation-induced apoptosis in immesenchymal stem cells. *Int J Biol Sci*. 2011;7(6):762-8.
- Gao M, Wang J, Wang W, Liu J, Wong CW. Phosphatidylinositol 3-kinase affects mitochondrial function in part through inducing peroxisomeproliferator-activated receptor γ coactivator-1 β expression. *Br J Pharmacol*. 2011 Feb;162(4):1000-8.
- Xu S, Zhao Y, Yu L, Shen X, Ding F, Fu G. Rosiglitazone attenuates endothelial

- progenitor cell apoptosis induced by TNF- α via ERK/MAPK and NF- κ B signal pathways. *J Pharmacol Sci*. 2011;117(4):265-74. Epub 2011 Dec 1.
36. Bao Y, Wang X, Li W, Huo D, Shen X, Han Y, Tan J, Zeng Q, Sun C. 20-Hydroxyecoisatetraenoic acid induces apoptosis in neonatal rat cardiomyocytes through mitochondrial-dependent pathways. *J Cardiovasc Pharmacol*. 2011 Mar;57(3):294-301.
 37. Chen G, Zhang X, Zhao M, Wang Y, Cheng X, Wang D, Xu Y, Du Z, Yu X. Celastrol targets mitochondrial respiratory chain complex I to induce reactive oxygen species-dependent cytotoxicity in tumor cells. *BMC Cancer*. 2011 May 14;11:170.
 38. Zhang Y, Guo J, Zeng L, Zhang J, Hui Y, Liu J, Qing X, Sun X, Guo G. Tert-butyl-2(4,5-dihydrogen-4,4,5,5-tetramethyl-3-O-1H-imidazole-3-cationic-1-oxyl-2-pyrrolidine-1-carboxylic ester displays novel cytotoxicity through reactive oxygen species-mediated oxidative damage in MCF-7 and MDA-MB-231 cells. *Chem Biol Interact*. 2011 Jul 15;192(3):287-97.
 39. Yang XX, Chen J, Zhou Q, Guo XY, Xiao P, Wu J, Xu JT. Troglitazone induced apoptosis of human pterygium fibroblasts through a mitochondrial-dependent pathway. *Int J Ophthalmol*. 2011;4(2):143-6.
 40. Liu J, Xu X, Feng X, Zhang B, Wang J. Adenovirus-mediated delivery of bFGF small interfering RNA reduces STAT3 phosphorylation and induces the depolarization of mitochondria and apoptosis in glioma cells U251. *J Exp Clin Cancer Res*. 2011 Sep 9;30:80.
 41. Liu Q, Li Y, Hu L, Wang D. Lycium barbarum Polysaccharides Attenuate Cisplatin-Induced Hair Cell Loss in Rat Cochlear Organotypic Cultures. *Int J Mol Sci*. 2011;12(12):8982-92.
 42. Cui M, Zhang Y, Liu S, Xie W, Ji M, Lou H, Li X. 1-oxo- α -lactone-induced apoptosis via ROS generation and mitochondria activation in MCF-7 cells. *Arch Pharm Res*. 2011 Aug;34(8):1323-9.
 43. Zhang YH, Zhao CQ, Jiang LS, Dai LY. Cyclic stretch-induced apoptosis in rat annulus fibrosus cells is mediated in part by endoplasmic reticulum stress through nitric oxide production. *Eur Spine J*. 2011 Aug;20(8):1233-43.
 44. Chen Y, Xie X. Tacrolimus attenuates myocardial damage to the total hepatic ischemia-reperfusion via regulation of the mitochondrial function. *J Surg Res*. 2012 Jan;172(1):e47-54.
 45. Yang X, Chen L, Liu Y, Yang Y, Chen T, Zheng W, Liu J, He QY. Ruthenium methylimidazole complexes induced apoptosis in lung cancer A549 cells through intrinsic mitochondrial pathway. *Biochimie*. 2012 Feb;94(2):345-53.
 46. Nie X, Song S, Zhang L, Qiu Z, Shi S, Liu Y, Yao L, Zhu D. 15-Hydroxyecoisatetraenoic acid (15-HETE) protects pulmonary artery smooth muscle cells from apoptosis via inducible nitric oxide synthase (iNOS) pathway. *Prostaglandins Other Lipid Mediat*. 2012 Jan;97(1-2):50-9.
 47. Li C, Li C, Zhu X, Wang C, Liu Z, Li W, Lu C, Zhou X. The expression and putative role of brain-derived neurotrophic factor and its receptor in bovine sperm. *Theriogenology*. 2012 Feb;77(3):636-43.
 48. Hua S, Lu C, Song Y, Li R, Liu X, Quan F, Wang Y, Liu J, Su F, Zhang Y. High levels of mitochondrial heteroplasmy modify the development of ovine-bovine interspecies nuclear transferred embryos. *Reprod Fertil Dev*. 2012 Jan;97(1-2):50-9.
 49. Li XX, He GR, Mu X, Xu B, Tian S, Yu X, Meng FR, Xuan ZH, Du GH. Protective effects of baicalein against rotenone-induced neurotoxicity in PC12 cells and isolated rat brain mitochondria. *Eur J Pharmacol*. 2012 Jan 15;674(2-3):227-33.
 50. Zhuang XJ, Huang Y, Duan YP, Zhang M, Lu YQ, Lu KH. Translocation of active mitochondria during buffalo (*Bubalus bubalis*) oocytes in vitro maturation, fertilization and preimplantation embryo development. *Reprod Domest Anim*. 2012 Jun;47(3):443-8.
 51. Gu L, Liang X, Wang L, Yan Y, Ni Z, Dai H, Gao J, Mou S, Wang Q, Chen X, Wang L, Qian J. Functional metabotropic glutamate receptors 1 and 5 are expressed in murine podocytes. *Kidney Int*. 2012 Mar;81(5):458-68.
 52. Ma J, Zhang L, Han W, Shen T, Ma C, Liu Y, Nie X, Liu M, Ran Y, Zhu D. Activation of JNK/c-Jun is required for the proliferation, survival, and angiogenesis induced by EET in pulmonary artery endothelial cells. *J Lipid Res*. 2012 Jun;53(6):1093-105.
 53. Wang SW, Wang YJ, Su YJ, Zhou WW, Yang SG, Zhang R, Zhao M, Li YN, Zhang ZP, Zhan DW, Liu RT. Rutin inhibits β -amyloid aggregation and cytotoxicity, attenuates oxidative stress and decreases the production of nitric oxide and proinflammatory cytokines. *Neurotoxicology*. 2012 Jun;33(3):482-90.
 54. Zhu Y, Li YH, Hu RH, Zheng YN, Feng N, Chen F, Wang J, Li HY. Origin of hydrogen peroxide during the cowpea-Xanthomonas interaction. *Australasian Plant Pathology*. 2012;41(1):1-11.
 55. Ou XH, Li S, Wang ZB, Li M, Quan S, Xing F, Guo L, Chao SB, Chen Z, Liang XW, Hou Y, Schatten H, Sun QY. Maternal insulin resistance causes oxidative stress and mitochondrial dysfunction in mouse oocytes. *Hum Reprod*. 2012 Jul;27(7):2130-45.
 56. Quan X, Wang Y, Ma X, Liang Y, Tian W, Ma Q, Jiang H, Zhao Y. α -Mangostin induces apoptosis and suppresses differentiation of 3T3-L1 cells via inhibiting fatty acid synthase. *PLoS One*. 2012;7(3):e33376.
 57. Zhang X, Xie P, Zhang X, Zhou W, Zhao S, Zhao Y, Cai Y. Toxic effects of microcystin-LR on the HepG2 cell line under hypoxic and normoxic conditions. *J Appl Toxicol*. 2013 Oct;33(10):1180-6.
 58. Tao Q, Fan X, Li T, Tang Y, Yang D, Le W. Gender segregation in gene expression and vulnerability to oxidative stress induced injury in ventral mesencephalic cultures of dopamine neurons. *J Neurosci Res*. 2012 Jan;90(1):167-78.
 59. Ge H, Tollner TL, Hu Z, Dai M, Li X, Guan H, Shan D, Zhang X, Lv J, Huang C, Dong Q. The importance of mitochondrial metabolic activity and mitochondrial DNA replication during oocyte maturation in vitro on oocyte quality and subsequent embryonic developmental competence. *Mol Reprod Dev*. 2012 Jun;79(6):392-401.
 60. Yu GR, Qin WW, Li JP, Hua W, Meng YL, Chen R, Yan B, Wang L, Zhang X, Jia LT, Zhao J, Zhang R, Yang AG. HIV-TAT-fused FHIT protein functions as a potential pro-apoptotic molecule in hepatocellular carcinoma cells. *Biosci Rep*. 2012 Jun;32(3):271-9.
 61. Shi ZY, Li YQ, Kang YH, Hu GQ, Huang-fu CS, Deng JB, Liu B. Piperonal ciprofloxacin hydrazone induces growth arrest and apoptosis of human hepatocarcinoma SMMC-7721 cells. *Acta Pharmacol Sin*. 2012 Feb;33(2):271-8.
 62. Su Y, Wang X, Xu W, Xue L, He C, Yang D, An R. Arsenic trioxide increases the sensitivity of 786-0 renal carcinoma cells to radiotherapy. *Cancer Invest*. 2012 Feb;30(2):114-8.
 63. Zhang HA, Gao M, Zhang L, Zhao Y, Shi LL, Chen BN, Wang YH, Wang SB, Du GH. Salvianolic acid A protects human SH-SY5Y neuroblastoma cells against H₂O₂-induced injury by increasing stress tolerance ability. *Biochem Biophys Res Commun*. 2012 May 11;421(3):479-83.
 64. Shen X, Liu L, Yin F, Ma H, Zou S. Effect of dehydroepiandrosterone on cell growth and mitochondrial function in TM-3 cells. *Gen Comp Endocrinol*. 2012 May 15;177(1):177-86.
 65. Sang H, Zhang L, Li J. Anti-benzopyrene-7,8-diol-9,10-epoxide induces apoptosis via mitochondrial pathway in human bronchiolar epithelium cells independent of the mitochondrial permeability transition pore. *Food Chem Toxicol*. 2012 Jul;50(7):2417-23.
 66. Wang CQ, Zhang J, Sun YF, Wang D, Li CJ, Li WH, Lu C, Liu Z, Wu H, Hou XF, Chen C, Zhou X. Detection of Neurotrophin-4 (NT-4) in Ejaculated Bull Spermatozoa and its Effect on Spermatozoa Mitochondrial Activity. *Reprod Domest Anim*. 2013 Feb;48(1):131-6.
 67. Zhang J, Song W, Guo J, Zhang J, Sun Z, Ding F, Gao M. Toxic effect of different ZnO particles on mouse alveolar macrophages. *J Hazard Mater*. 2012 Jun 15;219-220:148-55.
 68. Zhao P, Han T, Guo JJ, Zhu SL, Wang J, Ao F, Jing MZ, She YL, Wu ZH, Ye LB. HCV NS4B induces apoptosis through the mitochondrial death pathway. *Virus Res*. 2012 Oct;169(1):1-7.
 69. Li Z, Chen J, Lei T, Zhang H. Tamoxifen induces apoptosis of mouse microglia cell line BV-2 cells via both mitochondrial and death receptor pathways. *J Huazhong Univ Sci Technol Med Sci*. 2012 Apr;32(2):221-6.
 70. Khan M, Ding C, Rasul A, Yi F, Li T, Gao H, Gao R, Zhong L, Zhang K, Fang X, Ma T. Isoalantolactone induces reactive oxygen species mediated apoptosis in pancreatic carcinoma PANC-1 cells. *Int J Biol Sci*. 2012;8(4):533-47.
 71. Ding F, Shao ZW, Yang SH, Wu Q, Gao F, Xiong LM. Role of mitochondrial pathway in compression-induced apoptosis of nucleus pulposus cells. *Apoptosis*. 2012 Jun;17(6):579-90.
 72. Lin CJ, Huang HC, Liu WJ, Jiang ZF. Biomedical Imaging and Visualization Model of Mitochondrial Dysfunction and Oxidative Stress in Alzheimer Disease. *Applied Mechanics and Materials*. 2012; 138-139:1179-1182.
 73. Ge H, Tollner TL, Hu Z, Dai M, Li X, Guan H, Shan D, Lu J, Huang C, Dong Q. Impaired mitochondrial function in murine oocytes is associated with controlled ovarian hyperstimulation and in vitro maturation. *Reprod Fertil Dev*. 2012;24(7):945-52.
 74. Jia Y, Dong X, Zhou P, Liu X, Pan L, Xin H, Zhu YZ, Wang Y. The synthesis and biological evaluation of novel Danshensu-cysteine analog conjugates as cardiovascular-protective agents. *Eur J Med Chem*. 2012 Sep;55:176-87.
 75. Dai T, Zhao E, Lu G, Che K, He Q, Lu Y, Fang Q, Wang H, Zheng L, Li S, Huang C, Dong Q. Sperm cryopreservation of yellow drum *Nibea albiflora*: A special emphasis on post-thaw sperm quality. *Aquaculture*. 2012 Nov;368-369:82-8.
 76. Tu J, Wang T, Shi W, Wu G, Tian X, Wang Y, Ge D, Ren L. Multifunctional ZnPc-loaded mesoporous silica nanoparticles for enhancement of photodynamic therapy efficacy by endolysosomal escape. *Biomaterials*. 2012 Nov;33(31):7903-14.
 77. Yuan L, Wang J, Xiao H, Xiao C, Wang Y, Liu X. Isoorientin induces apoptosis through mitochondrial dysfunction and inhibition of PI3K/Akt signaling pathway in HepG2 cancer cells. *Toxicol Appl Pharmacol*. 2012 Nov 15;265(1):83-92.
 78. Li GQ, Chen XG, Wu XP, Xie JD, Liang YJ, Zhao XQ, Chen WQ, Fu LW. Effect of dicycloplatin, a novel platinum chemotherapeutic drug, on inhibiting cell growth and inducing cell apoptosis. *PLoS One*. 2012;7(11):e48994.
 79. Ma ZY, Qiao X, Xie CZ, Shao J, Xu JY, Qiang ZY, Lou JS. Activities of a novel Schiff Base copper(II) complex on growth inhibition and apoptosis induction toward MCF-7 human breast cancer cells via mitochondrial pathway. *J Inorg Biochem*. 2012 Dec;117:1-9.
 80. Lin F, Xu W, Guan C, Zhou M, Hong W, Fu L, Liu D, Xu A. Niacin protects against UVB radiation-induced apoptosis in cultured human skin keratinocytes. *Int J Mol Med*. 2012 Apr;29(4):593-600.
 81. Miao H, Zhao L, Li C, Shang Q, Lu H, Fu Z, Wang L, Jiang Y, Cao Y. Inhibitory effect of Shikonin on *Candida albicans* growth. *Biol Pharm Bull*. 2012;35(11):1956-63.
 82. Shi CM, Wang YM, Zhang CM, Qiu J, Shen YH, Zhu JG, Chen L, Xu GF, Zhao YP, Ji CB, Guo XR. Knockdown of NYGGF4 (PID1) rescues insulin resistance and mitochondrial dysfunction induced by FCCP in 3T3-L1 adipocytes. *Mitochondrion*. 2012 Nov;12(6):600-6.

83. Zhao X, Cong X, Zheng L, Xu L, Yin L, Peng J. Dioscin, a natural steroid saponin, shows remarkable protective effect against acetaminophen-induced liver damage in vitro and in vivo. *Toxicol Lett.* 2012 Oct 2;214(1):69-80.
84. Ru Y, Yin L, Sun H, Yin S, Pan Q, Wei H, Wu L, Liu S. A micropreparation of mitochondria from cells using magnetic beads with immunoaffinity. *Anal Biochem.* 2012 Feb 1;421(1):219-26.
85. Wei Z, Yuan S, Hao J, Fang X. Mechanism of inhibition of P-glycoprotein mediated efflux by Pluronic P123/F127 block copolymers: Relationship between copolymer concentration and inhibitory activity. *Eur J Pharm Biopharm.* 2013 Feb;83(2):266-73.
86. Mao Z, Xia W, Wang J, Chen T, Zeng Q, Xu B, Li W, Chen X, Xu S. Perfluorooctane sulfonate induces apoptosis in lung cancer A549 cells through reactive oxygen species-mediated mitochondrion-dependent pathway. *J Appl Toxicol.* 2013 Nov;33(11):1268-76.
87. Zhang L, Sang H, Liu Y, Li J. Manganese activates caspase-9-dependent apoptosis in human bronchial epithelial cells. *Hum Exp Toxicol.* 2013 Nov;32(11):1155-63.
88. Shi CM, Xu GF, Yang L, Fu ZY, Chen L, Fu HL, Shen YH, Zhu L, Ji CB, Guo XR. Overexpression of TFAM Protects 3T3-L1 Adipocytes from NYGGF4 (PID1) Overexpression-Induced Insulin Resistance and Mitochondrial Dysfunction. *Cell Biochem Biophys.* 2013 Jul;66(3):489-97.
89. Liu Q, Yao JY, Qian C, Chen R, Li XY, Liu SW, Sun BG, Song LS, Hong J. Effects of propofol on ischemia-induced ventricular arrhythmias and mitochondrial ATP-sensitive potassium channels. *Acta Pharmacol Sin.* 2012 Dec;33(12):1495-501.
90. Chen XM, Liu J, Wang T, Shang J. Colchicine-induced apoptosis in human normal liver L-02 cells by mitochondrial mediated pathways. *Toxicol In Vitro.* 2012 Aug;26(5):649-55.
91. Zhu X, Chen C, Ye D, Guan D, Ye L, Jin J, Zhao H, Chen Y, Wang Z, Wang X, Xu Y. Diammonium glycyrrhizinate upregulates PGC-1 α and protects against A β 1-42-induced neurotoxicity. *PLoS One.* 2012;7(4):e35823.
92. Zhang W, Huang Q, Hua Z. Galangin and TRAIL cooperate to suppress A549 lung cancer proliferation via apoptosis and p38 MAPK activation. *Acta Pharmaceutica Sinica B.* 2012 Dec;2(6):569-74.
93. Yue R, Hu H, Yiu KH, Luo T, Zhou Z, Xu L, Zhang S, Li K, Yu Z. Lycopene protects against hypoxia/reoxygenation-induced apoptosis by preventing mitochondrial dysfunction in primary neonatal mouse cardiomyocytes. *PLoS One.* 2012;7(11):e50778.
94. Gong Z, Yang L, Tang H, Pan R, Xie S, Guo L, Wang J, Deng Q, Xiong G, Xing Y, Dong J. Protective effects of curcumin against human immunodeficiency virus 1 gp120 V3 loop-induced neuronal injury in rats. *Neural Regen Res.* 2012 Jan 25;7(3):171-5.
95. Lei JC, Yu JQ, Yin Y, Liu YW, Zou GL. Alantolactone induces activation of apoptosis in human hepatoma cells. *Food Chem Toxicol.* 2012 Sep;50(9):3313-9.
96. Chen C, Han S, Liu W, Wang Y, Huang G. Effect of vitrification on mitochondrial membrane potential in human metaphase II oocytes. *J Assist Reprod Genet.* 2012 Oct;29(10):1045-50.
97. Yu H, Li X, Sun S, Gao X, Zhou D. c-Met inhibitor SU11274 enhances the response of the prostate cancer cell line DU145 to ionizing radiation. *Biochem Biophys Res Commun.* 2012 Oct 26;427(3):659-65.
98. Hu Y, Qi Y, Liu H, Fan G, Chai Y. Effects of celastrol on human cervical cancer cells as revealed by ion-trap gas chromatography-mass spectrometry based metabolic profiling. *Biochim Biophys Acta.* 2013 Mar;1830(3):2779-89.
99. Guo D, Bi H, Liu B, Wu Q, Wang D, Cui Y. Reactive oxygen species-induced cytotoxic effects of zinc oxide nanoparticles in rat retinal ganglion cells. *Toxicol In Vitro.* 2013 Mar;27(2):731-8.
100. Yue B, Zhang YS, Xu HM, Zhao CR, Li YY, Qin YZ, Wang RQ, Sun D, Yuan Y, Lou HX, Qu XJ. Riccardin D-26, a synthesized macrocyclic bisbibenzyl compound, inhibits human hepatocellular carcinoma growth through induction of apoptosis in p53-dependent way. *Cancer Lett.* 2013 Jan 1;328(1):104-13.
101. Wang F, Gao Q, Guo S, Cheng J, Sun X, Li Q, Wang T, Zhang Z, Cao W, Tian Y. The sonodynamic effect of curcumin on THP-1 cell-derived macrophages. *Biomed Res Int.* 2013;2013:737264.
102. Pi J, Jin H, Liu R, Song B, Wu Q, Liu L, Jiang J, Yang F, Cai H, Cai J. Pathway of cytotoxicity induced by folic acid modified selenium nanoparticles in MCF-7 cells. *Appl Microbiol Biotechnol.* 2013 Feb;97(3):1051-62.
103. Song S, Wang S, Ma J, Yao L, Xing H, Zhang L, Liao L, Zhu D. Biliverdin reductase/bilirubin mediates the anti-apoptotic effect of hypoxia in pulmonary arterial smooth muscle cells through ERK1/2 pathway. *Exp Cell Res.* 2013 Aug 1;319(13):1973-87.
104. Yang Y, Yan X, Duan W, Yan J, Yi W, Liang Z, Wang N, Li Y, Chen W, Yu S, Jin Z, Yi D. Pterostilbene Exerts Antitumor Activity via the Notch1 Signaling Pathway in Human Lung Adenocarcinoma Cells. *PLoS One.* 2013 May 3;8(5):e62652.
105. Liang D, Xiang L, Yang M, Zhang X, Guo B, Chen Y, Yang L, Cao J. ZnT7 can protect MC3T3-E1 cells from oxidative stress-induced apoptosis via PI3K/Akt and MAPK/ERK signaling pathways. *Cell Signal.* 2013 May;25(5):1126-35.
106. Fan Y, Wang C, Zhang Y, Hang P, Liu Y, Pan Z, Wang N, Du Z. Genistein ameliorates adverse cardiac effects induced by arsenic trioxide through preventing cardiomyocytes apoptosis. *Cell Physiol Biochem.* 2013;31(1):80-91.
107. Sun S, Pan S, Miao A, Ling C, Pang S, Tang J, Chen D, Zhao C. Active extracts of black tea (*Camellia Sinensis*) induce apoptosis of PC-3 prostate cancer cells via mitochondrial dysfunction. *Oncol Rep.* 2013 Aug;30(2):763-72.
108. Li P, Xue Y, Zhang W, Teng F, Sun Y, Qu T, Chen X, Cheng X, Song B, Luo W, Yu Q. Sodium fluoride induces apoptosis in odontoblasts via a JNK-dependent mechanism. *Toxicology.* 2013 Jun 7;308:138-45.
109. Liu Y, Wang L, Wu Y, Lv C, Li X, Cao X, Yang M, Feng D, Luo Z. Pterostilbene exerts antitumor activity against human osteosarcoma cells by inhibiting the JAK2/STAT3 signaling pathway. *Toxicology.* 2013 Feb 8;304:120-31.
110. Tang Q, Li G, Wei X, Zhang J, Chiu JF, Hasenmayer D, Zhang D, Zhang H. Resveratrol-induced apoptosis is enhanced by inhibition of autophagy in esophageal squamous cell carcinoma. *Cancer Lett.* 2013 Aug 19;336(2):325-37.
111. Chen Y, Zhuang X, Xu Z, Lu L, Guo H, Wu W, Liao X. Higenamine Combined with [6]-Gingerol Suppresses Doxorubicin-Triggered Oxidative Stress and Apoptosis in Cardiomyocytes via Upregulation of PI3K/Akt Pathway. Evidence-Based Complementary and Alternative Medicine. 2013;2013:970490.
112. Ma J, Zhang L, Zhang J, Liu M, Wei L, Shen T, Ma C, Wang Y, Chen Y, Zhu D. 15-lipoxygenase-1/15-hydroxyeicosatetraenoic acid promotes hepatocellular cancer cells growth through protein kinase B and heat shock protein 90 complex activation. *Int J Biochem Cell Biol.* 2013 Jun;45(6):1031-41.
113. Cai B, Li X, Wang Y, Liu Y, Yang F, Chen H, Yin K, Tan X, Zhu J, Pan Z, Wang B, Lu Y. Apoptosis of bone marrow mesenchymal stem cells caused by homocysteine via activating JNK signal. *PLoS One.* 2013 May 7;8(5):e63561.
114. Wu C, Wang C, Han T, Zhou X, Guo S, Zhang J. Insight into the Cellular Internalization and Cytotoxicity of Graphene Quantum Dots. *Adv Healthc Mater.* 2013 Dec;2(12):1613-9.
115. Ma LS, Jiang CY, Cui M, Lu R, Liu SS, Zheng BB, Li L, Li X. Fluopins C induces oncosis of human breast adenocarcinoma cells. *Acta Pharmacol Sin.* 2013 Aug;34(8):1093-100.
116. Sun L, Zhao M, Yu XJ, Wang H, He X, Liu JK, Zang WJ. Cardioprotection by acetylcholine: a novel mechanism via mitochondrial biogenesis and function involving the PGC-1 α pathway. *J Cell Physiol.* 2013 Jun;228(6):1238-48.
117. Yuan F, Dong P, Wang X, Fu X, Dai M, Zhang W. Toxicological effects of cigarette smoke on Ana-1 macrophages in vitro. *Exp Toxicol Pathol.* 2013 Nov;65(7-8):1011-8.
118. Li T, Liu Z, Jiang K, Ruan Q. Angiotensin II enhances doxorubicin resistance in HepG2 cells by upregulating survivin and Ref-1 via MSK1 activation. *Cancer Lett.* 2013 Sep 1;337(2):276-84.
119. Wu WY, Wang WY, Ma YL, Yan H, Wang XB, Qin YL, Su M, Chen T, Wang YP. Sodium tanshinone IIA silicate inhibits oxygen-glucose deprivation/recovery-induced cardiomyocyte apoptosis via suppression of the NF- κ B/TNF- α pathway. *Br J Pharmacol.* 2013 Jul;169(5):1058-71.
120. Zheng J, Zhang Y, Xu W, Luo Y, Hao J, Shen XL, Yang X, Li X, Huang K. Zinc protects HepG2 cells against the oxidative damage and DNA damage induced by ochratoxin A. *Toxicol Appl Pharmacol.* 2013 Apr 15;268(2):123-31.
121. E Q, Liu X, Liu Y, Liu W, Zuo J. Over-expression of GRP75 inhibits liver injury induced by oxidative damage. *Acta Biochim Biophys Sin (Shanghai).* 2013 Feb;45(2):129-34.
122. Yi F, He X, Wang D. Lycopene Protects Against MPP⁺-Induced Cytotoxicity by Maintaining Mitochondrial Function in SH-SY5Y Cells. *Neurochem Res.* 2013 Aug;38(8):1747-57.
123. Guo R, Liu B, Zhou S, Zhang B, Xu Y. The protective effect of fasudil on the structure and function of cardiac mitochondria from rats with type 2 diabetes induced by streptozotocin with a high-fat diet is mediated by the attenuation of oxidative stress. *Biomed Res Int.* 2013;2013:430791.
124. Li JW, Ning N, Ma YZ, Zhang R, Tan F, Chen NH. Claulansine F suppresses apoptosis induced by sodium nitroprusside in PC12 cells. *Free Radic Res.* 2013 Jul;47(6-7):488-97.
125. Wang Q, X Cheng X, Zhang D, Gao X, Zhou L, Qin X, Xie G, Liu K, Qin Y, Liu B, Qin M. Tectorigenin Attenuates Palmitate-Induced Endothelial Insulin Resistance via Targeting ROS-Associated Inflammation and IRS-1 Pathway. *PLoS ONE.* 2013 Jun 19;8(6):e66417.
126. Jiang L, Liu Y, Ma MM, Tang YB, Zhou JG, Guan YY. Mitochondria dependent pathway is involved in the protective effect of bestrophen-3 on hydrogen peroxide-induced apoptosis in basilar artery smooth muscle cells. *Apoptosis.* 2013 May;18(5):556-65.
127. Huang H, Wu K, You Q, Huang R, Li S, Wu K. Naringin inhibits high glucose-induced cardiomyocyte apoptosis by attenuating mitochondrial dysfunction and modulating the activation of the p38 signaling pathway. *Int J Mol Med.* 2013 Aug;32(2):396-402.
128. Zhou D, Wei A, Cao C, Ruan J. DICO, a novel nonaromatic B-ring flavonoid, induces G2/M cell cycle arrest and apoptosis in human hepatoma cells. *Food Chem Toxicol.* 2013 Jul;57:322-9.
129. Luo CL, Chen XP, Li LL, Li QQ, Li BX, Xue AM, Xu HF, Dai DK, Shen YW, Tao LY, Zhao ZQ. Poloxamer 188 attenuates in vitro traumatic brain injury-induced mitochondrial and lysosomal membrane permeabilization damage in cultured primary neurons. *J Neurotrauma.* 2013 Apr 1;30(7):597-607.
130. Li X, Tao H, Xie K, Ni Z, Yan Y, Wei K, Chuang PY, He JC, Gu L. cAMP signaling prevents podocyte apoptosis via activation of protein kinase A and mitochondrial fusion. *PLoS One.* 2014 Mar 18;9(3):e92003.
131. Sun J, Bai S, Bai W, Zou F, Zhang L, Li G, Hu Y, Li M, Yan R, Su Z, Huang Y. 1,3-Dichloro-2-propanol inhibits progesterone production through the expression of steroidogenic enzymes and cAMP concentration in Leydig cells. *Food Chem.* 2014 Jul 1;154:330-6.

132. Chang C, Wu G, Gao P, Yang L, Liu W, Zuo J. Upregulated Parkin expression protects mitochondrial homeostasis in DJ-1 knockdown cells and cells overexpressing the DJ-1 L166P mutation. *Mol Cell Biochem*. 2014 Feb;387(1-2):187-95.
133. Yang L, Di G, Qi X, Qu M, Wang Y, Duan H, Danielson P, Xie L, Zhou Q. Substance P promotes diabetic corneal epithelial wound healing through molecular mechanisms mediated via the neurokinin-1 receptor. *Diabetes*. 2014 Dec;63(12):4262-74.
134. Li D, Ye Y, Lin S, Deng L, Fan X, Zhang Y, Deng X, Li Y, Yan H, Ma Y. Evaluation of deoxynivalenol-induced toxic effects on DF-1 cells in vitro: cell-cycle arrest, oxidative stress, and apoptosis. *Environ Toxicol Pharmacol*. 2014 Jan;37(1):141-9.
135. He M, Dong C, Xie Y, Li J, Yuan D, Bai Y, Shao C. Reciprocal bystander effect between α -irradiated macrophage and hepatocyte is mediated by cAMP through a membrane signaling pathway. *Mutat Res Fundam Mol Mech Mutagen*. 2014 May-Jun;763-764:1-9.
136. Chu JH, Zhao CR, Song ZY, Wang RQ, Qin YZ, Li WB, Qu XJ. 1082-39, an analogue of sorafenib, inhibited human cancer cell growth more potently than sorafenib. *Biomed Pharmacother*. 2014 Apr;68(3):335-41.
137. Zheng L, Sun X, Zhu X, Lv F, Zhong Z, Zhang F, Guo W, Cao W, Yang L, Tian Y. Apoptosis of THP-1 derived macrophages induced by sonodynamic therapy using a new sonosensitizer hydroxyl acetylated curcumin. *PLoS One*. 2014 Mar 27;9(3):e93133.
138. Cui SX, Zhang HL, Xu WF, Qu XJ. 13F-1, a novel 5-fluorouracil prodrug containing an Asn-Gly-Arg (NO₂) COOCH₃ tripeptide, inhibits human colonic carcinoma growth by targeting Aminopeptidase N (APN/CD13). *Eur J Pharmacol*. 2014 Jul 5;734:50-9.
139. Fang L, Bai C, Chen Y, Dai J, Xiang Y, Ji X, Huang C, Dong Q. Inhibition of ROS production through mitochondria-targeted antioxidant and mitochondrial uncoupling increases post-thaw sperm viability in yellow catfish. *Cryobiology*. 2014 Dec;69(3):386-93.
140. Wang C, Xia W, Jiang Q, Xu Y, Yu P. Differential effects of lipid fractions from silver carp brain on human cervical carcinoma cells in vitro. *Food Funct*. 2014 Sep;5(9):2194-201.
141. Fan S, Li X, Lin J, Chen S, Shan J, Qi G. Honokiol inhibits tumor necrosis factor- α -stimulated rat aortic smooth muscle cell proliferation via caspase- and mitochondrial-dependent apoptosis. *Inflammation*. 2014 Feb;37(1):17-26.
142. Guo P, Pi H, Xu S, Zhang L, Li Y, Li M, Cao Z, Tian L, Xie J, Li R, He M, Lu Y, Liu C, Duan W, Yu Z, Zhou Z. Melatonin Improves Mitochondrial Function by Promoting MT1/SIRT1/PGC-1 Alpha-Dependent Mitochondrial Biogenesis in Cadmium-Induced Hepatotoxicity In Vitro. *Toxicol Sci*. 2014;142(1):182-95.
143. Li D, Ma H, Ye Y, Ji C, Tang X, Ouyang D, Chen J, Li Y, Ma Y. Deoxynivalenol induces apoptosis in mouse thymic epithelial cells through mitochondria-mediated pathway. *Environ Toxicol Pharmacol*. 2014 Jul;38(1):163-71.
144. Liu L, Li T, Tan J, Fu J, Guo Q, Ji H, Zhang Y. NG as a novel nitric oxide donor induces apoptosis by increasing reactive oxygen species and inhibiting mitochondrial function in MGC803 cells. *Int Immunopharmacol*. 2014 Aug 16;23(1):27-36.
145. Zhang X, Yu Q, Jiang W, Bi Y, Zhang Y, Gong M, Wei X, Li T, Chen J. All-trans retinoic acid suppresses apoptosis in PC12 cells injured by oxygen and glucose deprivation via the retinoic acid receptor α signaling pathway. *Mol Med Rep*. 2014 Nov;10(5):2549-55.
146. Jiang L, Zhao MN, Liu TY, Wu XS, Weng H, Ding Q, Shu YJ, Bao RF, Li ML, Mu JS, Wu WG, Ding QC, Cao Y, Hu YP, Shen BY, Tan ZJ, Liu YB. Bufalin induces cell cycle arrest and apoptosis in gallbladder carcinoma cells. *Tumour Biol*. 2014 Nov;35(11):10931-41.
147. Tang C, Liang J, Qian J, Jin L, Du M, Li M, Li D. Opposing role of JNK-p38 kinase and ERK1/2 in hydrogen peroxide-induced oxidative damage of human trophoblast-like JEG-3 cells. *Int J Clin Exp Pathol*. 2014 Feb 15;7(3):959-68.
148. Pan H, Cheng L, Yang H, Zou W, Cheng R, Hu T. Lysophosphatidic acid rescues human dental pulp cells from ischemia-induced apoptosis. *J Endod*. 2014 Feb;40(2):217-22.
149. Pan HY, Yang H, Shao MY, Xu J, Zhang P, Cheng R, Hu T. Sphingosine-1-phosphate mediates AKT/ERK maintenance of dental pulp homeostasis. *Int Endod J*. 2015;48(5):460-468.
150. Sun ZB, Wang JW, Xiao H, Zhang QS, Kan WS, Mo FB, Hu S, Ye SN. Icaritin may benefit the mesenchymal stem cells of patients with steroid-associated osteonecrosis by ABCB1-promoter demethylation: a preliminary study. *Osteoporos Int*. 2015 Jan;26(1):187-97.
151. Liu Y, Jiao R, Ma ZG, Liu W, Wu QQ, Yang Z, Li FF, Yuan Y, Bian ZY, Tang QZ. Sanguinarine inhibits angiotensin II-induced apoptosis in H9c2 cardiac cells via restoring reactive oxygen species-mediated decreases in the mitochondrial membrane potential. *Mol Med Rep*. 2015 Sep;12(3):3400-8.
152. Duan C, Zhang B, Deng C, Cao Y, Zhou F, Wu L, Chen M, Shen S, Xu G, Zhang S, Duan G, Yan H, Zou X. Piperlongumine induces gastric cancer cell apoptosis and G2/M cell cycle arrest both in vitro and in vivo. *Tumour Biol*. 2016 Aug; 37(8): 10793-804.
153. Wang L, Qin W, Zhang J, Bao C, Zhang H, Che Y, Sun C, Gu J, Feng X, Du C, Han W, Richard PL, Lei L. Adh enhances Actinobacillus pleuropneumoniae pathogenicity by binding to OR5M11 and activating p38 which induces apoptosis of PAMs and IL-8 release. *Sci Rep*. 2016 Apr 5;6:24058.
154. Li Y, Sun Y, Jing L, Wang J, Yan Y, Feng Y, Zhang Y, Liu Z, Ma L, Diao A. Lysosome Inhibitors Enhance the Chemotherapeutic Activity of Doxorubicin in He pG2 Cells. *Chemotherapy*. 2017;62(2):85-93.
155. Zhao J, Qi X, Dai Q, He X, Dweep H, Guo M, Luo Y, Gretz N, Luo H, Huang K, Xu W. Toxicity study of ochratoxin A using HEK293 and HepG2 cell lines based on microRNA profiling. *Hum Exp Toxicol*. 2016 Feb 18. pii: 0960327116632048. [Epub ahead of print]
156. Liu H, Peng H, Chen S, Liu Y, Xiang H, Chen R, Chen W, Zhao S, Chen P, Lu H. S1PR2 antagonist protects endothelial cells against high glucose-induced mitochondrial apoptosis through the Akt/GSK-3 β signaling pathway. *Biochem Biophys Res Commun*. 2017 Aug 26;490(3):1119-1124.
157. Yaoi X, Lu B, Lü C, Bai Q, Yan D, Xu H. Taraxerol Induces Cell Apoptosis through A Mitochondria-Mediated Pathway in HeLa Cells. *Cell J*. 2017 Oct;19(3):512-519.
158. Guo X, Zhang G, Chen L, Khan AA, Gu B, Li B. Newborn Neurons Are Damaged In Vitro by a Low Concentration of Silver Nanoparticles Through the Inflammatory Oxidative Stress Pathway. *DNA Cell Biol*. 2017 Dec;36(12):1062-1070.
159. Guo Q. Changes in mitochondrial function during EMT induced by TGF β -1 in pancreatic cancer. *Oncol Lett*. 2017 Mar;13(3):1575-1580.
160. Wu H, Liu S, Gong J, Liu J, Zhang Q, Leng X, Zhang N, Li Y. VCPA, a novel synthetic derivative of α -tocopheryl succinate, sensitizes human gastric cancer to doxorubicin-induced apoptosis via ROS-dependent mitochondrial dysfunction. *Cancer Lett*. 2017 May 1;393:22-32.
161. Wang T, Hou J, Su C, Zhao L, Shi Y. Hyaluronic acid-coated chitosan nanoparticles induce ROS-mediated tumor cell apoptosis and enhance antitumor efficiency by targeted drug delivery via CD44. *J Nanobiotechnology*. 2017 Jan 10;15(1):7.
162. He Z, Pu L, Yuan C, Jia M, Wang J. Nutrition deficiency promotes apoptosis of cartilage endplate stem cells in a caspase-independent manner partially through upregulating BNIP3. *Acta Biochim Biophys Sin (Shanghai)*. 2017 Jan;49(1):25-32.
163. Zhang B, Xu L, Zhuo N, Shen J. Resveratrol protects against mitochondrial dysfunction through autophagy activation in humannucleus pulposus cells. *Biochem Biophys Res Commun*. 2017 Nov 4;493(1):373-381.
164. Chen H, Tang X, Zhou B, Zhou Z, Xu N, Wang Y. A ROS-mediated mitochondrial pathway and Nrf2 pathway activation are involved in BDE-47-induced apoptosis in Neuro-2a cells. *Chemosphere*. 2017 Oct;184:679-686.
165. Hong S, Hong L, Li B, Wu D, Liu C, Min J, Guo W, Hu M, Tang J, Li Y. The role of GPX1 in the pathogenesis of female pelvic organ prolapse. *PLoS One*. 2017 Aug 7;12(8):e0181896.
166. Zhang J, Cai Q, Jiang M, Liu Y, Gu H, Guo J, Sun H, Fang J, Jin L. Mesencephalic astrocyte-derived neurotrophic factor alleviated 6-OHDA-induced cell damage via ROS-AMPK/mTOR mediated autophagic inhibition. *Exp Gerontol*. 2017 Mar;89:45-56.
167. Wen L, Jiang X, Sun J, Li X, Li X, Tian L, Li Y, Bai W. Cyanidin-3-O-glucoside promotes the biosynthesis of progesterone through the protection of mitochondrial function in Pb-exposed rat Leydig cells. *Food Chem Toxicol*. 2017 Oct 10. pii: S0278-6915(17)30586-0.
168. Li R, Zhou P, Guo Y, Lee JS, Zhou B. Tris (1,3-dichloro-2-propyl) phosphate-induced apoptotic signaling pathways in SH-SY5Y neuroblastoma cells. *Neurotoxicology*. 2017 Jan;58:1-10.
169. Yin K, Zhu R, Wang S, Zhao RC. Low-Level Laser Effect on Proliferation, Migration, and Antiapoptosis of Mesenchymal Stem Cells. *Stem Cells Dev*. 2017 May 15;26(10):762-775.
170. Lei W, Li Q, Su S, Bu J, Huang Q, Li Z. Chlamydia trachomatis plasmid-encoded protein pORF5 protects mitochondrial function by inducing mitophagy and increasing HMGB1 expression. *Pathog Dis*. 2017 Dec 29;75(9).
171. Xie K, Zhu M, Xiang P, Chen X, Kasimulali A, Lu R, Wang Q, Mou S, Ni Z, Gu L, Pang H. Protein Kinase A/CREB Signaling Prevents Adriamycin-Induced Podocyte Apoptosis via Upregulation of Mitochondrial Respiratory Chain Complexes. *Mol Cell Biol*. 2017 Dec 13;38(1). pii: e00181-17.
172. Ma X, Lin W, Lin Z, Hao M, Gao X, Zhang Y, Kuang H. Liraglutide alleviates H₂O₂-induced retinal ganglion cells injury by inhibiting autophagy through mitochondrial pathways. *Peptides*. 2017 Jun;92:1-8.
173. Xu X, Luo C, Zhang Z, Hu J, Gao X, Zuo Y, Wang Y, Zhu S. Mdivi 1 attenuates sodium azide induced apoptosis in H9c2 cardiac muscle cells. *Mol Med Rep*. 2017 Nov;16(5):5972-5978.
174. Xu H, Cao H, Zhu G, Liu S, Li H. Overexpression of microRNA-145 protects against rat myocardial infarction through targeting PDCD4. *Am J Transl Res*. 2017 Nov 15;9(11):5003-5011.

175. Dai C, Ciccotosto GD, Cappai R, Wang Y, Tang S, Xiao X, Velkov T. Minocycline attenuates colistin-induced neurotoxicity via suppression of apoptosis, mitochondrial dysfunction and oxidative stress. *J Antimicrob Chemother.* 2017 Jun 1;72(6):1635-1645.
176. Zhang L, Zhou Y, Chen K, Shi P, Li Y, Deng M, Jiang Z, Wang X, Li P, Xu B. The pan-Bcl2 Inhibitor AT101 Activates the Intrinsic Apoptotic Pathway and Causes DNA Damage in Acute Myeloid Leukemia Stem-Like Cells. *Target Oncol.* 2017 Oct;12(5):677-687.
177. Qu X, Sheng J, Shen L, Su J, Xu Y, Xie Q, Wu Y, Zhang X, Sun L. Autophagy inhibitor chloroquine increases sensitivity to cisplatin in QBC939 cholangiocarcinoma cells by mitochondrial ROS. *PLoS One.* 2017 Mar 16;12(3):e0173712.
178. Lin C, Zhang M, Zhang Y, Yang K, Hu J, Si R, Zhang G, Gao B, Li X, Xu C, Li C, Hao Q, Guo W. Helix B surface peptide attenuates diabetic cardiomyopathy via AMPK-dependent autophagy. *Biochem Biophys Res Commun.* 2017 Jan 22;482(4):665-671.
179. Yi Li, Qingqin Tang, Peng Wang, Jiahong Qin, Haidong Wu, Jiali Lin, and Zitong Huang. Dynamic Changes of Mitochondrial Fusion and Fission in Brain Injury after Cardiac Arrest in Rats. *Hindawi BioMed Research International Volume 2017, Article ID 1948070, 9 pages.*
180. Chen W, Zhang X, Fan J, Zai W, Luan J, Li Y, Wang S, Chen Q, Wang Y, Liang Y, Ju D. Tethering Interleukin-22 to Apolipoprotein A-I Ameliorates Mice from Acetaminophen-induced Liver Injury. *Theranostics.* 2017 Sep 26;7(17):4135-4148.
181. Ci X, Zhou J, Lv H, Yu Q, Peng L, Hua S. Betulin exhibits anti-inflammatory activity in LPS-stimulated macrophages and endotoxin-shocked mice through AMPK/AKT/Nrf2-dependent mechanism. *Cell Death Dis.* 2017 May 18;8(5):e2798.
182. Li CJ, Jiang YW, Chen SX, Li HJ, Chen L, Liu YT, Gao S, Zhao Y, Zhu XL, Wang HT, Wang FG1, Zheng L, Zhou X. 4-Methylcatechol inhibits cell growth and testosterone production in TM3 Leydig cells by reducing mitochondrial activity. *Andrologia.* 2017 Feb;49(1). doi: 10.1111/and.12581. Epub 2016 May 5.
183. Fan W, Han D, Sun Z, Ma S, Gao L, Chen J, Li X, Li X, Fan M, Li C, Hu D, Wang Y, Cao F. Endothelial deletion of mTORC1 protects against hindlimb ischemia in diabetic mice via activation of autophagy, attenuation of oxidative stress and alleviation of inflammation. *Free Radic Biol Med.* 2017 Jul;108:725-740.
184. Jiang Q, Liu G, Wang X, Hou Y, Duan Y, Wu G, Yin Y, Yao K. Mitochondrial pathway is involved in the protective effects of alpha-ketoglutarate on hydrogen peroxide induced damage to intestinal cells. *Oncotarget.* 2017 Aug 24;8(43):74820-74835.
185. Wang X, Guo Q, Tao L, Zhao L, Chen Y, An T, Chen Z, Fu R. E platinum, a newly synthesized platinum compound, induces apoptosis through ROS-triggered ER stress in gastric carcinoma cells. *Mol Carcinog.* 2017 Jan;56(1):218-231.
186. Yang Y, Cheng L, Wang Y, Han Y, Liu J, Deng X, Chao L. Expression of NDUFA13 in asthenozoospermia and possible pathogenesis. *Reprod Biomed Online.* 2017 Jan;34(1):66-74.
187. Yang X, Liu T, Chen B, Wang F, Yang Q, Chen X. Grape seed proanthocyanidins prevent irradiation-induced differentiation of human lung fibroblasts by ameliorating mitochondrial dysfunction. *Sci Rep.* 2017 Mar 3;7(1):62.
188. Guo J, Wang Y, Wang J, Zhang J, Fang J. Radiosensitization of oral tongue squamous cell carcinoma by nanosecond pulsed electric fields (nsPEFs). *Bioelectrochemistry.* 2017 Feb;113:35-41.
189. Feng F, Ren Q, Wu S, Saeed M, Sun C. Hoxa5 increases mitochondrial apoptosis by inhibiting Akt/mTORC1/S6K1 pathway in mice white adipocytes. *Oncotarget.* 2017 Aug 24;8(56):95332-95345.
190. Shen J, Xu S, Zhou H, Liu H, Jiang W, Hao J, Hu Z. IL-1 β induces apoptosis and autophagy via mitochondria pathway in human degenerative nucleus pulposus cells. *Sci Rep.* 2017 Jan 25;7:41067.
191. Dai J, Wu S, Kong Y, Chi Z, Si L, Sheng X, Cui C, Fang J, Zhang J, Guo J. Nanosecond Pulsed Electric Fields Enhance the Anti-tumour Effects of the mTOR Inhibitor Everolimus against Melanoma. *Sci Rep.* 2017 Jan 5;7:39597.
192. Sun R, Zhang J, Wei H, Meng X, Ding Q, Sun F, Cao M, Yin L, Pu Y. Acetyl-L-carnitine partially prevents benzene-induced hematotoxicity and oxidative stress in C3H/He mice. *Environ Toxicol Pharmacol.* 2017 Apr;51:108-113.
193. Wang Z, Hou L, Huang L, Guo J, Zhou X. Exenatide improves liver mitochondrial dysfunction and insulin resistance by reducing oxidative stress in high fat diet-induced obese mice. *Biochem Biophys Res Commun.* 2017 Apr 22;486(1):116-123.
194. Jiang Y, Wang X, Hu D1. Furanodienone induces G0/G1 arrest and causes apoptosis via the ROS/MAPKs-mediated caspase-dependent pathway in human colorectal cancer cells: a study in vitro and in vivo. *Cell Death Dis.* 2017 May 25;8(5):e2815.
195. Zhang Y, Han L, Yang H, Pang J, Li P, Zhang G, Li F, Wang F. Bisphenol A affects cell viability involved in autophagy and apoptosis in goat testis sertoli cell. *Environ Toxicol Pharmacol.* 2017 Oct;55:137-147.
196. Xu XH, Liu QY, Li T, Liu JL, Chen X, Huang L, Qiang WA, Chen X, Wang Y, Lin LG, Lu JJ. Garcinone E induces apoptosis and inhibits migration and invasion in ovarian cancer cells. *Sci Rep.* 2017 Sep 6;7(1):10718.
197. Tian Q, Wang Y, Zhang Q, Luo J, Jiang H, Zhang B, Mei M, Wu F, Wu Y, Peng J, Long T, Luo Y, Guo X. Phosphoprotein Gene Contributes to the Enhanced Apoptosis Induced by Wild-Type Rabies Virus GD-SH-01 In Vitro. *Front Microbiol.* 2017 Sep 5;8:1697.
198. Zhang Y, Cui P, Li Y, Feng G, Tong M, Guo L, Li T, Liu L, Li W, Zhou Q. Mitochondrially produced ATP affects stem cell pluripotency via Act16a-mediated histone acetylation. *FASEB J.* 2017 Dec 8. pii: fj.201700626RR.
199. Zhang J, Wang Y, Zhou Y, He QY. Jolkinolide B induces apoptosis of colorectal carcinoma through ROS-ER stress-Ca²⁺-mitochondria dependent pathway. *Oncotarget.* 2017 Aug 9;8(53):91223-91237.
200. Lin Z, Xu W, Li C, Wang Y, Yang L, Zou B, Gao S, Yao W, Song Z, Liu G. β -8-Oxoguanine DNA Glycosylase Overexpression Reduces Oxidative Stress-Induced Mitochondrial Dysfunction and Apoptosis Through the JNK Signaling Pathway in Human Bronchial Epithelial Cells. *DNA Cell Biol.* 2017 Dec;36(12):1071-1080.
201. Wang Q, Wang H, Jia Y, Pan H, Ding H. Luteolin induces apoptosis by ROS/ER stress and mitochondrial dysfunction in glioblastoma. *Cancer Chemother Pharmacol.* 2017 May;79(5):1031-1041.
202. Xu LQ, Lin MJ, Li YP, Li S, Chen SJ, Wei CJ. Preparation of Plasma Membrane Vesicles from Bone Marrow Mesenchymal Stem Cells for Potential Cytoplasm Replacement Therapy. *J Vis Exp.* 2017 May 18;(123). doi: 10.3791/55741.
203. Liu Y, Hu Y, E Q, Zuo J, Yang L, Liu W. Salvianolic acid B inhibits mitochondrial dysfunction by up-regulating mortalin. *Sci Rep.* 2017 Mar 2;7:43097.
204. An J, Zhang Y, He J, Zang Z, Zhou Z, Pei X, Zheng X, Zhang W, Yang H, Li S. Lactate dehydrogenase A promotes the invasion and proliferation of pituitary adenoma. *Sci Rep.* 2017 Jul 5;7(1):4734.
205. Zhou YZ, Li X, Gong WX, Tian JS, Gao XX, Gao L, Zhang X, Du GH, Qin XM. Protective effect of isoliquiritin against corticosterone-induced neurotoxicity in PC12 cells. *Food Funct.* 2017 Mar 22;8(3):1235-1244.
206. Jiang DQ, Wang Y, Li MX, Ma YJ, Wang Y. SIRT3 in Neural Stem Cells Attenuates Microglia Activation-Induced Oxidative Stress Injury Through Mitochondrial Pathway. *Front Cell Neurosci.* 2017 Jan 31;11:7.
207. Zhang C, Yuchi H, Sun L, Zhou X, Lin J. Human amnion-derived mesenchymal stem cells protect against UVA irradiation-induced human dermal fibroblast senescence, in vitro. *Mol Med Rep.* 2017 Aug;16(2):2016-2022.
208. Cao H, Xu H, Zhu G, Liu S. Isoquercetin ameliorated hypoxia/reoxygenation-induced H9C2 cardiomyocyte apoptosis via a mitochondrial-dependent pathway. *Biomed Pharmacother.* 2017 Nov;95:938-943.
209. Zhang JX, Wang R, Xi J, Shen L, Zhu AY, Qi Q, Wang QY, Zhang LJ, Wang FC, Lü HZ, Hu JG. Morroniside protects SK-N-SH human neuroblastoma cells against H₂O₂-induced damage. *Int J Mol Med.* 2017 Feb 8. doi: 10.3892/ijmm.2017.2882. [Epub ahead of print]
210. Liu X, Lei J, Wang K, Ma L, Liu D, Du Y, Wu Y, Zhang S, Wang W, Ma X, Liu H. Mitochondrial Omi/HtrA2 Promotes Caspase Activation Through Cleavage of HAX-1 in Aging Heart. *Rejuvenation Res.* 2017 Jun;20(3):183-192.
211. Du JY, Yuan F, Zhao LY, Zhu J, Huang YY, Zhang GS, Wei Y, Liu Y, Yi Q, Tu YS, Zhong X, Sun FY, Sun HS, Guan YY, Chen WL, Wang GL. Suppression of Kv1.5 protects against endothelial apoptosis induced by palmitate and in type 2 diabetes mice. *Life Sci.* 2017 Jan 1;168:28-37.
212. Tian SW, Ren Y, Pei JZ, Ren BC, He Y. Pigment epithelium-derived factor protects retinal ganglion cells from hypoxia-induced apoptosis by preventing mitochondrial dysfunction. *Int J Ophthalmol.* 2017 Jul 18;10(7):1046-1054.
213. Guo HL, Hassan HM, Ding PP, Wang SJ, Chen X, Wang T, Sun LX, Zhang LY, Jiang ZZ. Pyrazinamide-induced hepatotoxicity is alleviated by 4-PBA via inhibition

- of the PERK-eIF2 α -ATF4-CHOP pathway. *Toxicology*. 2017 Mar 1;378:65-75.
214. Zhang M, Wang S, Cheng Z, Xiong Z, Lv J, Yang Z, Li T, Jiang S, Gu J, Sun D, Fan Y. Polydatin ameliorates diabetic cardiomyopathy via Sirt3 activation. *Biochem Biophys Res Commun*. 2017 Nov 25;493(3):1280-1287.
215. Xu XH, Zhang LL, Wu GS, Chen X, Li T, Chen X, Wang YT, Lu JJ. Solasodine Induces Apoptosis, Affects Autophagy, and Attenuates Metastasis in Ovarian Cancer Cells. *Planta Med*. 2017 Feb;83(3-04):254-260.
216. Wang Y, Yuan S, Li L, Yang D, Xu C, Wang S, Zhang D. Novel proapoptotic agent SM-1 enhances the inhibitory effect of 5-fluorouracil on colorectal cancer cells in vitro and in vivo. *Oncol Lett*. 2017 Jun;13(6):4762-4768.
217. Xu W, Yu H, Ma R, Ma L, Liu Q, Shan H, Wu C, Zhang R, Zhou Y, Shan H. Apelin protects against myocardial ischemic injury by inhibiting dynamin-related protein 1. *Oncotarget*. 2017 Oct 10;8(59):100034-100044.
218. Gao Y, Zhang J, Liu Y, Zhang S, Wang Y, Liu B, Liu H, Li R, Lv C, Song X. Regulation of TERRA on telomeric and mitochondrial functions in IPF pathogenesis. *BMC Pulm Med*. 2017 Dec 2;17(1):163.
219. Sun J, Jiang L, Lin Y, Gerhard EM, Jiang X, Li L, Yang J, Gu Z. Enhanced anticancer efficacy of paclitaxel through multistage tumor-targeting liposomes modified with RGD and KLA peptides. *Int J Nanomedicine*. 2017 Feb 27;12:1517-1537.
220. Feng C, Xia Y, Zou P, Shen M, Hu J, Ying S, Pan J, Liu Z, Dai X, Zhuge W, Liang G, Ruan Y. Curcumin analog L48H37 induces apoptosis through ROS-mediated endoplasmic reticulum stress and STAT3 pathways in human lung cancer cells. *Mol Carcinog*. 2017 Jul;56(7):1765-1777.
221. Liu Y, Han M, Li X, Wang H, Ma M, Zhang S, Guo Y, Wang S, Wang Y, Duan N, Xu B, Yin J, Yao Y. Age-related changes in the mitochondria of human mural granulosa cells. *Hum Reprod*. 2017 Dec 1;32(12):2465-2473.
222. Liu Y, Jiang Y, Wang N, Jin Q, Ji F, Zhong C, Zhang Z, Yang J, Ye X, Chen T. Invalidation of mitophagy by FBP1-mediated repression promotes apoptosis in breast cancer. *Tumour Biol*. 2017 Jun;39(6):1010428317708779.
223. Du S, Li J, Du C, Huang Z, Chen G, Yan W. Overendocytosis of superparamagnetic iron oxide particles increases apoptosis and triggers autophagic cell death in human osteosarcoma cell under a spinning magnetic field. *Oncotarget*. 2017 Feb 7;8(6):9410-9424.
224. Zhao L, Lin H, Chen S, Chen S, Cui M, Shi D, Wang B, Ma K, Shao Z. Hydrogen peroxide induces programmed necrosis in rat nucleus pulposus cells through the RIP1/RIP3-PARP-AIF pathway. *J Orthop Res*. 2017 Sep 28.
225. Hao M, Zhu S, Hu L, Zhu H, Wu X, Li Q. Myocardial Ischemic Postconditioning Promotes Autophagy against Ischemia Reperfusion Injury via the Activation of the nNOS/AMPK/mTOR Pathway. *Int J Mol Sci*. 2017 Mar 11;18(3). pii: E614.
226. Fu J, Yang Q, Li Y, Li P, Wang L, Li X. A mechanism by which Astragalus polysaccharide protects against ROS toxicity through inhibiting the protein dephosphorylation of boar sperm preserved at 4 ° C. *J Cell Physiol*. 2017 Dec 12.
227. Jie M, Mao S, Liu H, He Z, Li HF, Lin JM. Evaluation of drug combination for glioblastoma based on an intestine-liver metabolic model on microchip. *Analyst*. 2017 Sep 25;142(19):3629-3638.
228. Hu J, Cui W, Ding W, Gu Y, Wang Z, Fan W. Globular Adiponectin Attenuated H₂O₂-Induced Apoptosis in Rat Chondrocytes by Inducing Autophagy Through the AMPK/mTOR Pathway. *Cell Physiol Biochem*. 2017;43(1):367-382.
229. Zhang J, Liu C, Huang RZ, Chen HF, Liao ZX, Sun JY, Xia XK, Wang FX. Three new C-27-carboxylated-lupane-triterpenoid derivatives from *Potentilla discolor* Bunge and their in vitro antitumor activities. *PLoS One*. 2017 Apr 7;12(4):e0175502.
230. Liu J, Zhang Y, Chen L, Yu F, Li X, Dan Tao, Zhao J, Zhou S. Polyphyllin I induces G2/M phase arrest and apoptosis in U251 human glioma cells via mitochondrial dysfunction and the JNK signaling pathway. *Acta Biochim Biophys Sin (Shanghai)*. 2017 Jun 1;49(6):479-486.
231. Wu L, Pang Y, Qin G, Xi G, Wu S, Wang X, Chen T. Farnesylthiosalicylic acid sensitizes hepatocarcinoma cells to artemisinin derivatives. *PLoS One*. 2017 Feb 9;12(2):e0171840.
232. Weng J, Li W, Jia X, An W. Alleviation of Ischemia-Reperfusion Injury in Liver Steatosis by Augmenter of Liver Regeneration Is Attributed to Antioxidation and Preservation of Mitochondria. *Transplantation*. 2017 Oct;101(10):2340-2348.
233. Yan Y, Wang L, He J, Liu P, Lv X, Zhang Y, Xu X, Zhang L, Zhang Y. Synergy with interferon-lambda 3 and sorafenib suppresses hepatocellular carcinoma proliferation. *Biomed Pharmacother*. 2017 Apr;88:395-402.
234. Wu X, Jiang L, Sun X, Yao X, Bai Y, Liu X, Liu N, Zhai X, Wang S, Yang G. Mono(2-ethylhexyl) phthalate induces autophagy-dependent apoptosis through lysosomal-mitochondrial axis in human endothelial cells. *Food Chem Toxicol*. 2017 Aug;106(Pt A):273-282.
235. Zhu L, Li M, Liu X, Du L, Jin Y. Inhalable oridonin-loaded poly(lactic-co-glycolic) acid large porous microparticles for in situ treatment of primary non-small cell lung cancer. *Acta Pharm Sin B*. 2017 Jan;7(1):80-90.
236. Wang D, Dan Xu, Sun Y, Wu Y, Ma L, Duan J. Synthesis, characterization and anticancer activity of tanshinone I grafted low molecular chitosan. *Glycoconj J*. 2017 Feb;34(1):3-12.
237. Zhang Y, Liu L, Li F, Wu T, Jiang H, Jiang X, Du X, Wang Y. Salinomycin Exerts Anticancer Effects on PC-3 Cells and PC-3-Derived Cancer Stem Cells In Vitro and In Vivo. *Biomed Res Int*. 2017;2017:4101653.
238. Wang S, Mao Y, Xi S, Wang X, Sun L. Nutrient Starvation Sensitizes Human Ovarian Cancer SKOV3 Cells to BH3 Mimetic via Modulation of Mitochondrial Dynamics. *Anat Rec (Hoboken)*. 2017 Feb;300(2):326-339.
239. Qi G, Mi Y, Fan R, Zhao B, Ren B, Liu X. Tea polyphenols ameliorates neural redox imbalance and mitochondrial dysfunction via mechanisms linking the key circadian regulator Bmal1. *Food Chem Toxicol*. 2017 Dec;110:189-199.
240. Li HJ, Sun XM, Li ZK, Yin QW, Pang H, Pan JJ, Li X, Chen W. LncRNA UCA1 Promotes Mitochondrial Function of Bladder Cancer via the MiR-195/ARL2 Signaling Pathway. *Cell Physiol Biochem*. 2017;43(6):2548-2561.
241. Hu S, Gao Y, Zhou H, Kong F, Xiao F, Zhou P, Chen Y. New insight into mitochondrial changes in vascular endothelial cells irradiated by gamma ray. *Int J Radiat Biol*. 2017 May;93(5):470-476.
242. Ye R, Xu S, Liu Y, Pang L, Lian X, Zhong Y, Su Y, Wang S. Protective Effect of Icarin on the Development of Preimplantation Mouse Embryos against Hydrogen Peroxide-Induced Oxidative Injury. *Oxid Med Cell Longev*. 2017;2017:2704532.
243. Deng M, Qin Y, Chen X, Li D, Wang Q, Zheng H, Gu L, Deng C, Xue Y, Zhu D, Wang Q, Wang J. Combination of celecoxib and PD184161 exerts synergistic inhibitory effects on gallbladder cancer cell proliferation. *Oncol Lett*. 2017 May;13(5):3850-3858.
244. Zhang YH, Li J, Yang WZ, Xian ZH, Feng QT, Ruan XC. Mitochondrial expression and activity of P-glycoprotein under oxidative stress in outer blood-retinal barrier. *Int J Ophthalmol*. 2017 Jul 18;10(7):1055-1063.
245. Yang RX, Lei J, Wang BD, Feng DY, Huang L, Li YQ, Li T, Zhu G, Li C, Lu FF, Nie TJ, Gao GD, Gao L. Pretreatment with Sodium Phenylbutyrate Alleviates Cerebral Ischemia/Reperfusion Injury by Upregulating DJ-1 Protein. *Front Neurol*. 2017 Jun 9;8:256.
246. Liu Q, Zhou Y, Duan R, Wei H, Jiang S, Peng J. Lower dietary n-6 : n-3 ratio and high-dose vitamin E supplementation improve sperm morphology and oxidative stress in boars. *Reprod Fertil Dev*. 2017 Apr;29(5):940-949.
247. Huang H, Guo M, Liu N, Zhao C, Chen H, Wang X, Liao S, Zhou P, Liao Y, Chen X, Lan X, Chen J, Xu D, Li X, Shi X, Yu L, Nie Y, Wang X, Zhang CE, Liu J. Bilirubin neurotoxicity is associated with proteasome inhibition. *Cell Death Dis*. 2017 Jun 15;8(6):e2877.
248. Li L, Ni J, Li M, Chen J, Han L, Zhu Y, Kong D, Mao J, Wang Y, Zhang B, Zhu M, Gao X, Fan G. Ginsenoside Rg3 micelles mitigate doxorubicin-induced cardiotoxicity and enhance its anticancer efficacy. *Drug Deliv*. 2017 Nov;24(1):1617-1630.
249. Li H, Wang Y, Wang C, Zhang S, Li S, Zhou G, Wang S, Zhang J. Extraction, selenylation modification and antitumor activity of the glucan from *Castanea mollissima* Blume. *Glycoconj J*. 2017 Apr;34(2):207-217.
250. Liu Z, Ren B, Wang Y, Zou C, Qiao Q, Diao Z, Mi Y, Zhu D, Liu X. Sesamol Induces Human Hepatocellular Carcinoma Cells Apoptosis by Impairing Mitochondrial Function and Suppressing Autophagy. *Sci Rep*. 2017 Apr 4;7:45728.
251. Yang J, Yu J, Li D, Yu S, Ke J, Wang L, Wang Y, Qiu Y, Gao X, Zhang J, Huang L. Store-operated calcium entry-activated autophagy protects EPC proliferation via the CAMKK2-MTOR pathway in ox-LDL exposure. *Autophagy*. 2017 Jan 2;13(1):82-98.
252. Di G, Zhao X, Qi X, Zhang S, Feng L, Shi W, Zhou Q. VEGF-B promotes recovery of corneal innervations and trophic functions in diabetic mice. *Sci Rep*. 2017 Jan 16;7:40582.
253. Huang X, Huang R, Gou S, Wang Z, Liao Z, Wang H. Platinum(IV) complexes conjugated with phenstatin analogue as inhibitors of microtubule polymerization and reversers of multidrug resistance.

- Bioorg Med Chem. 2017 Sep 1;25(17):4686-4700.
254. Lu Y, Ma W, Li Z, Lu J, Wang X. The interplay between p16 serine phosphorylation and arginine methylation determines its function in modulating cellular apoptosis and senescence. *Sci Rep*. 2017 Jan 25;7:41390.
255. Zhu H, Chen Z, Ma Z, Tan H, Xiao C, Tang X, Zhang B, Wang Y, Gao Y. Tanshinone IIA Protects Endothelial Cells from H₂O₂-Induced Injuries via PXR Activation. *Biomol Ther (Seoul)*. 2017 Nov 1;25(6):599-608.
256. Zhao J, Liao Y, Chen J, Dong X, Gao Z, Zhang H, Wu X, Liu Z, Wu Y. Aberrant Buildup of All-Trans-Retinal Dimer, a Nonpyridinium Bisretinoid Lipofuscin Fluorophore, Contributes to the Degeneration of the Retinal Pigment Epithelium. *Invest Ophthalmol Vis Sci*. 2017 Feb 1;58(2):1063-1075.
257. He X, Li S, Liu B, Susperreguy S, Formoso K, Yao J, Kang J6, Shi A7, Birnbaumer L8,9, Liao Y. Major contribution of the 3/6/7 class of TRPC channels to myocardial ischemia/reperfusion and cellular hypoxia/reoxygenation injuries. *Proc Natl Acad Sci U S A*. 2017 Jun 6;114(23):E4582-E4591.
258. Xiao J, Zhang R, Huang F, Liu L, Deng Y, Ma Y, Wei Z, Tang X, Zhang Y, Zhang M. Lychee (*Litchi chinensis* Sonn.) Pulp Phenolic Extract Confers a Protective Activity against Alcoholic Liver Disease in Mice by Alleviating Mitochondrial Dysfunction. *J Agric Food Chem*. 2017 Jun 21;65(24):5000-5009.
259. Chang G, Liu J, Qin S, Jiang Y, Zhang P, Yu H, Lu K, Zhang N, Cao L, Wang Y, Li Y, Zhang D. Cardioprotection by exenatide: A novel mechanism via improving mitochondrial function involving the GLP-1 receptor/cAMP/PKA pathway. *Int J Mol Med*. 2018 Mar;41(3):1693-1703.
260. Yin J, Ni B, Liao WG, Gao YQ. Hypoxia-induced apoptosis of mouse spermatocytes is mediated by HIF-1 α through a death receptor pathway and a mitochondrial pathway. *J Cell Physiol*. 2018 Feb;233(2):1146-1155.
261. Yang F, Li T, Dong Z, Mi R. MicroRNA-410 is involved in mitophagy after cardiac ischemia/reperfusion injury by targeting high-mobility group box 1 protein. *J Cell Biochem*. 2018 Feb;119(2):2427-2439.
262. Qiu M, Shi F, Dai F, Song R, Wang S, You Y, Zhao B. A reactive oxygen species activation mechanism contributes to Sophoridine-induced apoptosis in rat liver BRL-3A cells. *J Ethnopharmacol*. 2018 Mar 1;213:376-383.
263. Zhang YF, Su PK, Wang LJ, Zheng HQ, Bai XF, Li P, Meng XP, Yang JY. T-2 toxin induces apoptosis via the Bax-dependent caspase-3 activation in mouse primary Leydig cells. *Toxicol Mech Methods*. 2018 Jan;28(1):23-28.
264. Bian X, Teng T, Zhao H, Qin J, Qiao Z, Sun Y, Liun Z, Xu Z. Zinc prevents mitochondrial superoxide generation by inducing mitophagy in the setting of hypoxia/reoxygenation in cardiac cells. *Free Radic Res*. 2018 Jan;52(1):80-91.
265. Wang Y, Zhao Y, Jiang W, Zhao X, Fan G, Zhang H, Shen P, He J, Fan X. iTRAQ-based proteomic analysis reveals recovery of impaired mitochondrial function in ischemic myocardium by Shenmai formula. *J Proteome Res*. 2018 Feb 2;17(2):794-803.
266. Dai C, Ciccostoto GD, Cappai R, Wang Y, Tang S, Hoyer D, Schneider EK, Velkov T, Xiao X. Rapamycin Confers Neuroprotection against Colistin-Induced Oxidative Stress, Mitochondrial Dysfunction, and Apoptosis through the Activation of Autophagy and mTOR/Akt/CREB Signaling Pathways. *ACS Chem Neurosci*. 2018 Apr 18;9(4):824-837.
267. Wang C, Xiao F, Gan Y, Yuan W, Zhai Z, Jin T, Chen X, Zhang X. Improving Bone Regeneration Using Chordin siRNA Delivered by pH-Responsive and Non-Toxic Polyspermine Imidazole-4,5-Imine. *Cell Physiol Biochem*. 2018;46(1):133-147.
268. Yuan SX, Li JL, Xu XK, Chen W, Chen C, Kuang KQ, Wang FY, Wang K, Li FC. Underlying mechanism of the photodynamic activity of hematoporphyrin-induced apoptosis in U87 glioma cells. *Int J Mol Med*. 2018 Apr;41(4):2288-2296.
269. Zhang W, Liu Z, Zhang Y, Bao Q, Wu W, Huang H, Liu X. Silencing calreticulin gene might protect cardiomyocytes from angiotensin II-induced apoptosis. *Life Sci*. 2018 Apr 1;198:119-127.
270. Geng J, Liu W, Xiong Y, Ding H, Jiang C, Yang X, Li X, Elgehama A, Sun Y, Xu Q, Guo W, Gao J. Andrographolide sulfonate improves Alzheimer-associated phenotypes and mitochondrial dysfunction in APP/PS1 transgenic mice. *Biomed Pharmacother*. 2018 Jan;97:1032-1039.
271. Shen L, Sun B, Sheng J, Yu S, Li Y, Xu H, Su J, Sun L. PGC1 α promotes cisplatin resistance in human ovarian carcinoma cells through upregulation of mitochondrial biogenesis. *Int J Oncol*. 2018 Jul;53(1):404-416.
272. Wang S, Tian Y, Zhang JY, Xu HB, Zhou P, Wang M, Lu SB, Luo Y, Wang M, Sun GB, Xu XD, Sun XB. Targets Fishing and Identification of Calendulose E as Hsp90AB1: Design, Synthesis, and Evaluation of Clickable Activity-Based Probe. *Front Pharmacol*. 2018 May 23;9:532.

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