



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

细胞线粒体分离试剂盒

产品编号	产品名称	包装
C3601	细胞线粒体分离试剂盒	50-100次

产品简介:

- 细胞线粒体分离试剂盒(Cell Mitochondria Isolation Kit)是用于快速便捷地分离培养细胞线粒体的试剂盒。
- 本试剂盒在分离线粒体的同时可以获得去除线粒体的细胞浆蛋白, 可用于研究细胞色素c等线粒体蛋白向胞浆的释放。
- 使用本试剂盒分离获得的线粒体纯度较高, 并且绝大部分分离获得的线粒体都含有完整的内膜和外膜, 并具有线粒体的生理功能。因此本试剂盒分离得到的线粒体可以用于线粒体的生理功能等方面的研究。例如可以使用碧云天的C2006线粒体膜电位检测试剂盒(JC-1)测定分离得到的线粒体的膜电位。
- 本试剂盒分离得到的线粒体也可以被试剂盒中的线粒体裂解液或其它适当裂解液裂解后用于SDS-PAGE、Western、双向电泳等蛋白分析。
- 本试剂盒提供了线粒体制备过程中匀浆程度的重要判断指标, 即台盼蓝染色, 使分离得到的线粒体的质量更加有保证。台盼蓝染色液为选用试剂, 在实验条件成熟后可以不必使用。
- 本试剂盒提供了蛋白酶抑制剂PMSF, 使匀浆时蛋白酶的活性被适当抑制, 这样在获得线粒体的同时还可以获得有时有用的去除了大量线粒体的蛋白, 在进行蛋白或酶活分析时可以作为对照。
- 如果每个样品的细胞数量为2000-5000万, 本试剂盒可以处理50-100个样品。

包装清单:

产品编号	产品名称	包装
C3601-1	线粒体分离试剂	125ml
C3601-2	台盼蓝染色液	10ml
C3601-3	线粒体储存液	15ml
C3601-4	线粒体裂解液	15ml
C3601-5	PMSF(晶体)	For 1.5ml
C3601-6	PMSF(溶剂)	1.5ml
—	说明书	1份

保存条件:

-20℃保存, 一年有效。其中台盼蓝染色液也可以4℃保存, PMSF(晶体)和PMSF(溶剂)在配制100mM PMSF溶液前可以室温保存。

注意事项:

- 试剂盒中的试剂对于不同的实验目的不必全部使用。
- 如果不是用于制备线粒体蛋白样品, 线粒体分离试剂和线粒体裂解液中不必加入PMSF。
- 如果用于制备线粒体蛋白样品, 线粒体分离试剂和线粒体裂解液中需添加PMSF。PMSF一定要在线粒体分离试剂或线粒体裂解液加入到样品中前2-3分钟内加入, 以免PMSF在水溶液中很快失效。
- 分离线粒体的所有步骤均需在冰上或4℃进行, 所用溶液需冰浴或4℃预冷。
- 通常在分离线粒体时前后两次离心速度选取600g和11,000g, 如果希望纯度更高, 但对线粒体的得率要求不高, 前后两次离心速度可以采用1000g和3500g。
- 使用本试剂盒中的线粒体储存液稀释或储存的线粒体样品应及时使用, 以免线粒体膜电位受影响。如果不能及时使用, 建议在-80℃保存。冻存后的线粒体样品不推荐用于膜电位的检测, 但可以用线粒体蛋白或核酸的相关检测。
- 如果出现本试剂盒中线粒体储存液不够用的情况, 可以单独订购线粒体储存液(C3609)。
- 台盼蓝与PMSF对人体有毒, 操作时请特别小心, 并注意有效防护以避免直接接触人体或吸入体内。
- Bradford法蛋白浓度测定试剂盒(P0006)、Bradford蛋白浓度测定试剂盒(去垢剂兼容型)(P0006C)和BCA蛋白浓度测定试剂盒(P0009/P0010/P0010S/P0011/P0012/P0012S)可以向碧云天订购。
- 本产品仅限于专业人员的科学研究用, 不得用于临床诊断或治疗, 不得用于食品或药品, 不得存放于普通住宅内。
- 为了您的安全和健康, 请穿实验服并戴一次性手套操作。

使用说明:

- 1. 准备溶液：**室温融解试剂盒中的各种溶液，融解后立即置于冰上并混匀。第一次使用时，把1.5ml PMSF(溶剂)加入到PMSF(晶体)中，溶解并混匀，即得到1.5ml 100mM PMSF。配制好的100mM PMSF溶液-20℃保存。如果最终目的是制备线粒体蛋白样品，根据样品数量，取适量线粒体分离试剂备用，在线粒体分离试剂加入到细胞样品中前数分钟内加入PMSF，使PMSF的最终浓度为1mM。同时，根据样品数量取适量线粒体裂解液备用，在线粒体裂解液加入到线粒体样品中前数分钟内加入PMSF，使PMSF的最终浓度为1mM。
- 2. 收集细胞：**
对于贴壁细胞：用PBS洗一遍，用胰酶细胞消化液(Trypsin-EDTA Solution)消化细胞，100-200g，室温离心5-10分钟收集细胞。胰酶细胞消化液(C0201)可以向碧云天订购。
对于悬浮细胞：直接离心收集细胞。
- 3. 洗涤细胞：**用冰浴预冷的PBS轻轻重悬细胞沉淀，取少量细胞用于计数，剩余细胞600g，4℃离心5分钟沉淀细胞。弃上清。
- 4. 预处理：**加入1-2.5ml线粒体分离试剂或临用前添加了PMSF的线粒体分离试剂至2000-5000万细胞中，轻轻悬浮细胞，冰浴放置10-15分钟。
- 5. 匀浆：**把细胞悬液转移到一适当大小的玻璃匀浆器中，匀浆10-30下左右。
- 6. 匀浆效果的鉴定：**不同细胞不同匀浆器所需的匀浆次数有所不同，需自行优化。通常可以在匀浆10次后取约2微升细胞匀浆，加入30-50微升台盼蓝染色液，混匀后显微镜下观察台盼蓝染色阳性(蓝色)细胞的比例。如果阳性细胞比例不足50%，增加5次匀浆。随后再同前取样进行台盼蓝染色鉴定。当阳性比例超过50%时即可停止匀浆进入下一步。请勿过度匀浆，过度匀浆会导致线粒体的机械损伤。同时记录对于该细胞的匀浆次数，通常在后续实验时不必再摸索匀浆次数。
- 7. 把细胞匀浆在600g，4℃离心10分钟。**
注：如需获得纯度更高的线粒体，可以将此步骤的离心速度改为1000g，其它离心条件不变；获得更高纯度线粒体的缺点是相同数量细胞的线粒体抽提得率会下降。
- 8. 小心把上清转移到另一离心管中，在11,000g，4℃离心10分钟。**
注：如需获得纯度更高的线粒体，可以将此步骤的离心速度改为3500g，其它离心条件不变；获得更高纯度线粒体的缺点是相同数量细胞的线粒体抽提得率会下降。
- 9. 小心去除上清。沉淀即为分离得到的细胞线粒体。**
注：如果希望获得去除线粒体的细胞浆蛋白，在本步骤需收集上清，并且在收集上清时注意勿触及沉淀。随后把收集的上清12,000g，4℃离心10分钟。取上清即为去除线粒体的细胞浆蛋白。该细胞浆蛋白可以使用BCA法或Bradford法测定蛋白浓度。
- 10. 线粒体的使用：**
 - a. 如果用于完整线粒体的功能或酶活性研究，**初始2000-5000万细胞分离得到的线粒体样品中可以加入150-200微升线粒体储存液，重悬线粒体。
 - b. 如果用于线粒体的蛋白分析，**初始2000-5000万细胞分离得到的线粒体样品中可以加入150-200微升临用前添加了PMSF的线粒体裂解液裂解线粒体。裂解后的线粒体可以用于PAGE、Western、IP以及线粒体中的一些酶活性的测定等。裂解后的蛋白样品可以使用BCA法或去垢剂兼容型Bradford法(P0006C)测定蛋白浓度。
 - c. 如果用于双向电泳，**请使用适当的用于双向电泳的裂解液处理线粒体。

相关产品：

产品编号	产品名称	包装
C2006	线粒体膜电位检测试剂盒(JC-1)	>100次
C3601	细胞线粒体分离试剂盒	50-100次
C3606	组织线粒体分离试剂盒	50-100次
C3609	线粒体储存液	50ml

使用本产品的文献：

- Shen J, Huang C, Jiang L, Gao F, Wang Z, Zhang Y, Bai J, Zhou H, Chen Q. Enhancement of cisplatin induced apoptosis by suberoylanilide hydroxamic acid in human oral squamous cell carcinoma cell lines. *Biochem Pharmacol.* 2007 Jun 15;73(12):1901-9.
- Zhang WC, Peng YJ, He WQ, Lv N, Chen C, Zhi G, Chen HQ, Zhu MS. Identification and functional characterization of an aggregation domain in long myosin light chain kinase. *FEBS J.* 2008 May;275(10):2489-500.
- Xu WN, Liu WB, Liu ZP. Trichlorfon-induced apoptosis in hepatocyte primary cultures of *Carassius auratus gibelio*. *Chemosphere.* 2009 Nov;77(7):895-901.
- Zhang Z, Wang S, Qiu H, Duan C, Ding K, Wang Z. Waltonitoxin induces human hepatocellular carcinoma cells apoptosis in vitro and in vivo. *Cancer Lett.* 2009 Dec 28;286(2):223-31.
- Li Z, Wei H, Liu X, Hu S, Cong X, Chen X. LPA rescues ER stress-associated apoptosis in hypoxia and serum deprivation-stimulated mesenchymal stem cells. *J Cell Biochem.* 2010 Nov 1;111(4):811-20.
- Xiong Y, Fang JH, Yun JP, Yang J, Zhang Y, Jia WH, Zhuang SM. Effects of microRNA-29 on apoptosis, tumorigenicity, and prognosis of hepatocellular carcinoma. *Hepatology.* 2010 Mar;51(3):836-45.
- Fu K, Ren H, Wang Y, Fei E, Wang H, Wang G. DJ-1 inhibits TRAIL-induced apoptosis by blocking pro-caspase-8 recruitment to FADD. *Oncogene.* 2012 Mar 8;31(10):1311-22.
- Zhang L, Yao HJ, Yu Y, Zhang Y, Li RJ, Ju RJ, Wang XX, Sun MG, Shi JF, Lu WL. Mitochondrial targeting liposomes incorporating daunorubicin and quinacrine for treatment of relapsed breast cancer arising from cancer stem cells. *Biomaterials.* 2012 Jan;33(2):565-82.
- 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.
- Gong K, Chen C, Zhan Y, Chen Y, Huang Z, Li W. Autophagy-related gene 7 (ATG7) and reactive oxygen species/extracellular signal-regulated kinase regulate tetradrine-induced autophagy in human hepatocellular carcinoma. *J Biol Chem.*

2012 Oct 12;287(42):35576-88.

11. Gong K, Xie J, Yi H, Li W. CS055 (Chidamide/HBI-8000), a novel histone deacetylase inhibitor, induces G1 arrest, ROS-dependent apoptosis and differentiation in human leukaemia cells. *Biochem J*. 2012 May 1;443(3):735-46.
12. Yu Y, Wang ZH, Zhang L, Yao HJ, Zhang Y, Li RJ, Ju RJ, Wang XX, Zhou J, Li N, Lu WL. Mitochondrial targeting topotecan-loaded liposomes for treating drug-resistant breast cancer and inhibiting invasive metastases of melanoma. *Biomaterials*. 2012 Feb;33(6):1808-20.
13. Du W, Hong J, Wang YC, Zhang YJ, Wang P, Su WY, Lin YW, Lu R, Zou WP, Xiong H, Fang JY. Inhibition of JAK2/STAT3 signalling induces colorectal cancer cell apoptosis via mitochondrial pathway. *J Cell Mol Med*. 2012 Aug;16(8):1878-88.
14. Qin Y, Zhang S, Gong W, Li J, Jia J, Quan Z. Adenovirus-mediated gene transfer of tissue factor pathway inhibitor-2 inhibits gallbladder carcinoma growth invitro and in vivo. *Cancer Sci*. 2012 Apr;103(4):723-30.
15. Xiao H, Wang J, Yuan L, Xiao C, Wang Y, Liu X. Chicoric acid induces apoptosis in 3T3-L1 preadipocytes through ROS-mediated PI3K/Akt and MAPK signaling pathways. *J AGR FOOD CHEM*. 2013 Feb 20;61(7):1509-20.
16. He B, Lin P, Jia Z, Du W, Qu W, Yuan L, Dai W, Zhang H, Wang X, Wang J, Zhang X, Zhang Q. The transport mechanisms of polymer nanoparticles in Caco-2 epithelial cells. *Biomaterials*. 2013 Aug;34(25):6082-98.
17. Li N, Zhang CX, Wang XX, Zhang L, Ma X, Zhou J, Ju RJ, Li XY, Zhao WY, Lu WL. Development of targeting lonidamine liposomes that circumvent drug-resistant cancer by acting on mitochondria signaling pathways. *Biomaterials*. 2013 Apr;34(13):3366-80.
18. Xu S, Pi H, Chen Y, Zhang N, Guo P, Lu Y, He M, Xie J, Zhong M, Zhang Y, Yu Z, Zhou Z. Cadmium induced Drp1-dependent mitochondrial fragmentation by disturbing calcium homeostasis in its hepatotoxicity. *Cell Death Dis*. 2013 Mar 14;4:e540.
19. Sun JP, Shi ZY, Liu SM, Kang YH, Hu GQ, Huangfu CS, Deng JB, Liu B. Trimethoxy-benzaldehyde levofloxacin hydrazone inducing the growth arrest and apoptosis of human hepatocarcinoma cells. *Cancer Cell Int*. 2013 Jul 2;13(1):67.
20. Zhou J, Zhao WY, Ma X, Ju RJ, Li XY, Li N, Sun MG, Shi JF, Zhang CX, Lu WL. The anticancer efficacy of paclitaxel liposomes modified with mitochondrial targeting conjugate in resistant lung cancer. *Biomaterials*. 2013 May;34(14):3626-38.
21. 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.
22. Liu D, Yi B, Liao Z, Tang L, Yin D, Zeng S, Yao J, He M. 14-3-3 γ protein attenuates lipopolysaccharide-induced cardiomyocytes injury through the Bcl-2 family/mitochondria pathway. *Int Immunopharmacol*. 2014 Aug;21(2):509-15.
23. Zhou Y, Zhao W, Xie G, Huang M, Hu M, Jiang X, Zeng D, Liu J, Zhou H, Chen H, Wang GH, Zhang XK. Induction of Nur77-dependent apoptotic pathway by a coumarin derivative through activation of JNK and p38 MAPK. *Carcinogenesis*. 2014 Dec;35(12):2660-9.
24. Li Y, Zhang B, Huang K, He X, Luo Y, Liang R, Luo H, Shen XL, Xu W. Mitochondrial proteomic analysis reveals the molecular mechanisms underlying reproductive toxicity of zearalenone in MLTC-1 cells. *Toxicology*. 2014 Oct 3;324:55-67.
25. Weng H, Huang H, Dong B, Zhao P, Zhou H, Qu L. Inhibition of miR-17 and miR-20a by oridonin triggers apoptosis and reverses chemoresistance by derepressing BIM-S. *Cancer Res*. 2014 Aug 15;74(16):4409-19.
26. Wu ZJ, Yu J, Fang QJ, Wang RX, Lian JB, He RL, Jiao HX, Lin MJ. Sodium Ferulate Prevents Daunorubicin-Induced Apoptosis in H9c2 Cells via Inhibition of the ERKs Pathway. *CELL PHYSIOL BIOCHEM*. 2015;36(6):2121-36.
27. Yan J, Liu XH, Han MZ, Wang YM, Sun XL, Yu N, Li T, Su B, Chen ZY. Blockage of GSK3 β -mediated Drp1 phosphorylation provides neuroprotection in neuronal and mouse models of Alzheimer's disease. *Neurobiol Aging*. 2015 Jan;36(1):211-27.
29. Zhang Q, Cheng G, Qiu H, Zhu L, Ren Z, Zhao W, Zhang T, Liu L. The p53-inducible gene 3 involved in flavonoid-induced cytotoxicity through the reactive

oxygen species-mediated mitochondrial apoptotic pathway in human hepatoma cells. *Food Funct*. 2015 May;6(5):1518-25.

30. Jiang L, Li L, He X, Yi Q, He B, Cao J, Pan W, Gu Z. Overcoming drug-resistant lung cancer by paclitaxel loaded dual-functional liposomes with mitochondria targeting and pH-response. *Biomaterials*. 2015 Jun;52:126-39.
31. Cai XY, Xia Y, Yang SH, Liu XZ, Shao ZW, Liu YL, Yang W, Xiong LM. Ropivacaine- and bupivacaine-induced death of rabbit annulus fibrosus cells in vitro: involvement of the mitochondrial apoptotic pathway. *OSTEOARTHR CARTILAGE*. 2015 Oct;23(10):1763-75.
32. Huang G, Mao J, Ji Z, Ailati A. Stachyose-induced apoptosis of Caco-2 cells via the caspase-dependent mitochondrial pathway. *Food Funct*. 2015 Mar;6(3):765-71.
33. Cao L, Chen J, Li M, Qin YY, Sun M, Sheng R, Han F, Wang G, Qin ZH. Endogenous level of TIGAR in brain is associated with vulnerability of neurons to ischemic injury. *Neurosci Bull*. 2015 Oct;31(5):527-40.
34. Zhang BF, Xing L, Cui PF, Wang FZ, Xie RL, Zhang JL, Zhang M, He YJ, Lyu JY, Qiao JB, Chen BA, Jiang HL. Mitochondria apoptosis pathway synergistically activated by hierarchical targeted nanoparticles co-delivering siRNA and lonidamine. *Biomaterials*. 2015 Aug;61:178-89.
35. Li X, Liu X, Xu Y, He Y, Liu J, Xie M. Expression profile of apoptotic and proliferative proteins in hypoxic HUVEC treated with statins. *Int J Oncol*. 2015 Feb;46(2):677-84.
36. Deng S, Tang S, Zhang S, Zhang C, Wang C, Zhou Y, Dai C, Xiao X. Furazolidone induces apoptosis through activating reactive oxygen species-dependent mitochondrial signaling pathway and suppressing PI3K/Akt signaling pathway in HepG2 cells. *Food Chem Toxicol*. 2015 Jan;75:173-86.
37. Chu B, Liu F, Li L, Ding C, Chen K, Sun Q, Shen Z, Tan Y, Tan C, Jiang Y. A benzimidazole derivative exhibiting antitumor activity blocks EGFR and HER2 activity and upregulates DR5 in breast cancer cells. *Cell Death Dis*. 2015 Mar 12;6:e1686.
38. Yang J, Yao S. JNK-Bcl-2/Bcl-xL-Bax/Bak Pathway Mediates the Crosstalk between Matrine-Induced Autophagy and Apoptosis via Interplay with Beclin 1. *Int J Mol Sci*. 2015 Oct 27;16(10):25744-58.
39. Wang J, Cai J, Huang Y, Ke Q, Wu B, Wang S, Han X, Wang T, Wang Y, Li W, Lao C, Song W, Xiang AP. Nestin regulates proliferation and invasion of gastrointestinal stromal tumor cells by altering mitochondrial dynamics. *Oncogene*. 2016 Jun;34:3139-50.
40. Dong WQ, Chao M, Lu QH, Chai WL, Zhang W, Chen XY, Liang ES, Wang LB, Tian HL, Chen YG, Zhang MX. Prohibitin overexpression improves myocardial function in diabetic cardiomyopathy. *ONCOTARGET*. 2016 Jan 5;7(1):66-80.
41. Li Z, Liu X, Wang L, Wang Y, Du C, Xu S, Zhang Y, Wang C, Yang C. The role of PGC-1 α and MRP1 in lead-induced mitochondrial toxicity in testicular Sertoli cells. *Toxicology*. 2016 Apr 29;355-356:39-48.
42. Wang XD, Li CY, Jiang MM, Li D, Wen P, Song X, Chen JD, Guo LX, Hu XP, Li GQ, Zhang J, Wang CH, He ZD. Induction of apoptosis in human leukemia cells through an intrinsic pathway by cathachunine, a unique alkaloid isolated from *Catharanthus roseus*. *Phytomedicine*. 2016 Jun 1;23(6):641-53.
43. Teng H, Huang Q, Chen L. Inhibition of cell proliferation and triggering of apoptosis by agrimonolide through MAP kinase (ERK and p38) pathways in human gastric cancer AGS cells. *Food Funct*. 2016 Nov 9;7(11):4605-4613.
44. Huang JY, Yuan YH, Yan JQ, Wang YN, Chu SF, Zhu CG, Guo QL, Shi JG, Chen NH. 20C, a bibenzyl compound isolated from *Gastrodia elata*, protects PC12 cells against rotenone-induced apoptosis via activation of the Nrf2/ARE/HO-1 signaling pathway. *Acta Pharmacol Sin*. 2016 Jun;37(6):731-40.
45. Gong L, Di C, Xia X, Wang J, Chen G, Shi J, Chen P, Xu H, Zhang W. AKT/mTOR signaling pathway is involved in salvianolic acid B-induced autophagy and apoptosis in hepatocellular carcinoma cells. *Int J Oncol*. 2016 Dec;49(6):2538-2548.
46. Yang M, Wang B, Gao J, Zhang Y, Xu W, Tao L. Spinosad induces programmed cell death involves mitochondrial dysfunction and cytochrome C release in *Spodoptera frugiperda* Sf9 cells. *Chemosphere*. 2017 Feb;169:155-161.
47. Li L, Sun W, Li L, Liu Y, Wu L, Wang F, Zhou Z, Zhang Z, Huang Y. A pH-

- responsive sequential-disassembly nanohybrid for mitochondrial targeting. *Nanoscale*. 2017 Jan 7;9(1):314-325.
48. Sun W, Li L, Yang QQ, Zhang ZR, Huang Y. Two birds, one stone: dual targeting of the cancer cell surface and subcellular mitochondria by the galectin-3-binding peptide G3-C12. *Acta Pharmacol Sin*. 2017 Jan 9. doi: 10.1038/aps.2016.137.
49. Wei Y, Yu S, Zhang Y, Zhang Y, Zhao H, Xiao Z, Yao L, Chen S, Zhang J. NDRG2 promotes adriamycin sensitivity through a Bad/p53 complex at the mitochondria in breast cancer. *ONCOTARGET*. 2017 Apr 25;8(17):29038-29047.
50. Sun W, Li L, Li LJ, Yang QQ, Zhang ZR, Huang Y. Two birds, one stone: dual targeting of the cancer cell surface and subcellular mitochondria by the galectin-3-binding peptide G3-C12. *Acta Pharmacol Sin*. 2017 Jun;38(6):806-822.
51. 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.
52. Hua XW, Bao YW, Chen Z, Wu FG. Carbon quantum dots with intrinsic mitochondrial targeting ability for mitochondria-based theranostics. *Nanoscale*. 2017 Aug 3;9(30):10948-10960.
53. Gong L, Tang Y1, 2 An R, Lin M, Chen L, Du J. RTN1-C mediates cerebral ischemia/reperfusion injury via ER stress and mitochondria-associated apoptosis pathways. *Cell Death Dis*. 2017 Oct 5;8(10):e3080.
54. Huo X, Wang C, Yu Z, Peng Y, Wang S, Feng S, Zhang S, Tian X, Sun C, Liu K, Deng S, Ma X. Human transporters, PEPT1/2, facilitate melatonin transportation into mitochondria of cancer cells: An implication of the therapeutic potential. *J Pineal Res*. 2017 May;62(4).
55. Yang Y, Yang H, Yang J, Li L, Xiang B, Wei Q. The genetically engineered drug rhCNB induces apoptosis via a mitochondrial route in tumor cells. *ONCOTARGET*. 2017 Jul 22;8(39):65876-65888.
56. Wang Y, Guo SH, Shang XJ, Yu LS, Zhu JW, Zhao A, Zhou YF, An GH, Zhang Q, Ma B. Triptolide induces Sertoli cell apoptosis in mice via ROS/JNK-dependent activation of the mitochondrial pathway and inhibition of Nrf2-mediated antioxidant response. *Acta Pharmacol Sin*. 2017 Sep 14.
57. Li J, Huang Q, Long X, Guo X, Sun X, Jin X, Li Z, Ren T, Yuan P, Huang X, Zhang H, Xing J. Mitochondrial elongation-mediated glucose metabolism reprogramming is essential for tumor cell survival during energy stress. *Oncogene*. 2017 Aug 24;36(34):4901-4912.
58. Chen J, Chen B, Zou Z, Li W, Zhang Y, Xie J, Liu C. Costunolide enhances doxorubicin-induced apoptosis in prostate cancer cells via activated mitogen-activated protein kinases and generation of reactive oxygen species. *ONCOTARGET*. 2017 Nov 21;8(64):107701-107715.
59. Yang YL, Li J, Liu K, Zhang L, Liu Q, Liu B, Qi LW. Ginsenoside Rg5 increases cardiomyocyte resistance to ischemic injury through regulation of mitochondrial hexokinase-II and dynamin-related protein 1. *Cell Death Dis*. 2017 Feb 23;8(2):e2625.
60. Chen W, Liu Y, Zhang L, Gu X, Liu G, Shahid M, Gao J, Ali T, Han B. Nocardia cyriacigeorgica from Bovine Mastitis Induced In vitro Apoptosis of Bovine Mammary Epithelial Cells via Activation of Mitochondrial-Caspase Pathway. *FRONT CELL INFECT MI*. 2017 May 18;7:194.
61. Liu Z, Gao L, Wang P, Xie Z, Cen S, Li Y, Wu X, Wang L, Su H, Deng W, Wang S, Li D, Li J, Ouyang Y, Wu Y, Shen H. TNF- α Induced the Enhanced Apoptosis of Mesenchymal Stem Cells in Ankylosing Spondylitis by Overexpressing TRAIL-R2. *Stem Cells Int*. 2017;2017:4521324.
62. Wang ZB, Zhang S, Li Y, Wang RM, Tong LC, Wang Y, Liu WY, Su DF, Tu Y, Zhang LC, Li L. LY333531, a PKC β inhibitor, attenuates glomerular endothelial cell apoptosis in the early stage of mouse diabetic nephropathy via down-regulating swiprosin-1. *Acta Pharmacol Sin*. 2017 Jul;38(7):1009-1023.
63. Qin Y, Meng L, Fu Y, Quan Z, Ma M, Weng M, Zhang Z, Gao C, Shi X, Han K. SNORA74B gene silencing inhibits gallbladder cancer cells by inducing PHLPP and suppressing Akt/mTOR signaling. *ONCOTARGET*. 2017 Mar 21;8(12):19980-19996.
64. Huang Z, Yang G, Shen T, Wang X, Li H, Ren D. Dehydrobruceine B enhances the cisplatin-induced cytotoxicity through regulation of the mitochondrial apoptotic pathway in lung cancer A549 cells. *Biomed Pharmacother*. 2017 May;89:623-631.
65. Li Y, Zhang L, Qu T, Tang X, Li L, Zhang G. Conservation and divergence of mitochondrial apoptosis pathway in the Pacific oyster, *Crassostrea gigas*. *Cell Death Dis*. 2017 Jul 6;8(7):e2915.
66. Qi G, Liu Z, Fan R, Yin Z, Mi Y, Ren B, Liu X. Athyrium multidentatum (Doll.) Ching extract induce apoptosis via mitochondrial dysfunction and oxidative stress in HepG2 cells. *SCI REP-UK*. 2017 May 23;7(1):2275.
67. Ren T, Zhang H, Wang J, Zhu J, Jin M, Wu Y, Guo X, Ji L, Huang Q, Zhang H, Yang H, Xing J. MCU-dependent mitochondrial Ca^{2+} inhibits NAD $^{+}$ /SIRT3/SOD2 pathway to promote ROS production and metastasis of HCC cells. *Oncogene*. 2017 Oct 19;36(42):5897-5909.
68. 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 NANOMED*. 2017 Feb 27;12:1517-1537.
69. Qie X, Wen D, Guo H, Xu G, Liu S, Shen Q, Liu Y, Zhang W, Cong B, Ma C. Endoplasmic Reticulum Stress Mediates Methamphetamine-Induced Blood-Brain Barrier Damage. *Front Pharmacol*. 2017 Sep 14;8:639.
70. Yang M, Wang B, Gao J, Zhang Y, Xu W, Tao L. Spinosad induces programmed cell death involves mitochondrial dysfunction and cytochrome C release in *Spodoptera frugiperda* Sf9 cells. *Chemosphere*. 2017 Feb;169:155-161.
71. Hu X, Kuang Y, Li L, Tang H, Shi Q, Shu X, Zhang Y, Chan FK, Tao Q, He C. Epigenomic and Functional Characterization of Junctophilin 3 (JPH3) as a Novel Tumor Suppressor Being Frequently Inactivated by Promoter CpG Methylation in Digestive Cancers. *Theranostics*. 2017 May 30;7(7):2150-2163.
72. Qin Y, Su Z, Wu Y, Wu C, Jin S, Xie W, Jiang W, Zhou R, Cui J. NLRP11 disrupts MAVS signalosome to inhibit type I interferon signaling and virus-induced apoptosis. *EMBO Rep*. 2017 Dec;18(12):2160-2171.
73. Jin X, Zheng X, Li F, Liu B, Li H, Hirayama R, Li P, Liu X, Shen G, Li Q. Fragmentation level determines mitochondrial damage response and subsequently the fate of cancer cells exposed to carbon ions. *Radiother Oncol*. 2017 Dec 2. pii: S0167-8140(17)32736-6.
74. Yang J, Zhao JX, Cao Q, Hao L, Zhou D, Gan Z, Ji LN, Mao ZW. Simultaneously Inducing and Tracking Cancer Cell Metabolism Repression by Mitochondria-Immobilized Rhenium(I) Complex. *ACS APPL MATER INTER*. 2017 Apr 26;9(16):13900-13912.
75. Fu K, Wang Y, Guo D, Wang G, Ren H. Familial Parkinson's Disease-Associated L166P Mutant DJ-1 is Cleaved by Mitochondrial Serine Protease Omi/HtrA2. *Neurosci Bull*. 2017 Dec;33(6):685-694.
76. Wang F, Sun W, Li L, Li L, Liu Y, Zhang ZR, Huang Y. Charge-Reversible Multifunctional HPMA Copolymers for Mitochondrial Targeting. *ACS APPL MATER INTER*. 2017 Aug 23;9(33):27563-27574.
77. Tao R, Zhao Y, Chu H, Wang A, Zhu J, Chen X, Zou Y, Shi M, Liu R, Su N, Du J, Zhou HM, Zhu L, Qian X, Liu H, Loscalzo J, Yang Y. Genetically encoded fluorescent sensors reveal dynamic regulation of NADPH metabolism. *Nat Methods*. 2017 Jul;14(7):720-728.
78. Wang Z, Zhou F, Dou Y, Tian X, Liu C, Li H, Shen H, Chen G. Melatonin Alleviates Intracerebral Hemorrhage-Induced Secondary Brain Injury in Rats via Suppressing Apoptosis, Inflammation, Oxidative Stress, DNA Damage, and Mitochondria Injury. *Transl Stroke Res*. 2018 Feb;9(1):74-91.
79. Wang J, Huang Y, Cai J, Ke Q, Xiao J, Huang W, Li H, Qiu Y, Wang Y, Zhang B, Wu H, Zhang Y, Sui X, Bardeesi ASA, Xiang AP. A Nestin-Cdk5-Drp1 Axis Regulates Neural Stem/Progenitor Cell Stemness via a Metabolic Shift. *Stem Cells*. 2018 Apr;36(4):589-601.
80. Dai G, Zheng D, Guo W, Yang J, Cheng AY. Cinobufagin Induces Apoptosis in Osteosarcoma Cells Via the Mitochondria-Mediated Apoptotic Pathway. *CELL PHYSIOL BIOCHEM*. 2018;46(3):1134-1147.
81. Gao X, Chen D, Hu X, Zhou Y, Wang Y, Wu C, Chen J, Wang Y, Pei R, Chen X.

- PLA1A Participates in the Antiviral Innate Immune Response by Facilitating the Recruitment of TANK-Binding Kinase 1 to Mitochondria. *J Innate Immun.* 2018;10(4):315-327.
82. Jiang HY, Yang Y, Zhang YY, Xie Z, Zhao XY, Sun Y, Kong WJ. The dual role of poly(ADP-ribose) polymerase-1 in modulating parthanatos and autophagy under oxidative stress in rat cochlear marginal cells of the stria vascularis. *Redox Biol.* 2018 Apr;14:361-370.
83. Shen Y, Wu L, Qin D, Xia Y, Zhou Z, Zhang X, Wu X. Carbon black suppresses the osteogenesis of mesenchymal stem cells: the role of mitochondria. *Part Fibre Toxicol.* 2018 Apr 12;15(1):16.
84. Li A, Liu Q, Li Q, Liu B, Yang Y, Zhang N. Berberine Reduces Pyruvate-driven Hepatic Glucose Production by Limiting Mitochondrial Import of Pyruvate through Mitochondrial Pyruvate Carrier 1. *EBioMedicine.* 2018 Aug;34:243-255.
85. Wang Y, Guo SH, Shang XJ, Yu LS, Zhu JW, Zhao A, Zhou YF, An GH, Zhang Q, Ma B. Triptolide induces Sertoli cell apoptosis in mice via ROS/JNK-dependent activation of the mitochondrial pathway and inhibition of Nrf2-mediated antioxidant response. *Acta Pharmacol Sin.* 2018 Feb;39(2):311-327.
86. Wang Z, Zhou F, Dou Y, Tian X, Liu C, Li H, Shen H, Chen G. Melatonin Alleviates Intracerebral Hemorrhage-Induced Secondary Brain Injury in Rats via Suppressing Apoptosis, Inflammation, Oxidative Stress, DNA Damage, and Mitochondria Injury. *Transl Stroke Res.* 2018 Feb;9(1):74-91.
87. Yuan G, Chen X, Liu Z, Wei W, Shu Q, Abou-Hamdan H, Jiang L, Li X, Chen R, Dé saubry L, Zhou F, Xie D. Flavagline analog FL3 induces cell cycle arrest in urothelial carcinoma cell of the bladder by inhibiting the Akt/PHB interaction to activate the GADD45a pathway. *J EXP CLIN CANC RES.* 2018 Feb 7;37(1):21.
88. Zhang J, Li L, Peng Y, Chen Y, Lv X, Li S, Qin X, Yang H, Wu C, Liu Y. Surface chemistry induces mitochondria-mediated apoptosis of breast cancer cells via PTEN/PI3K/AKT signaling pathway. *BBA-MOL CELL RES.* 2018 Jan;1865(1):172-185.
89. Yuan Y, Zhang Y, Zhao S, Chen J, Yang J, Wang T, Zou H, Wang Y, Gu J, Liu X, Bian J, Liu Z. Cadmium-induced apoptosis in neuronal cells is mediated by Fas/FasL-mediated mitochondrial apoptotic signaling pathway. *SCI REP-UK.* 2018 Jun 11;8(1):8837.
90. Lu YT, Li LZ, Yang YL, Yin X, Liu Q, Zhang L, Liu K, Liu B, Li J, Qi LW. Succinate induces aberrant mitochondrial fission in cardiomyocytes through GPR91 signaling. *Cell Death Dis.* 2018 Jun 4;9(6):672.
91. Luo J, Qin J, Fu Y, Zhang S, Zhang X, Yang M. 6'-Hydroxy Justicidin B Triggers a Critical Imbalance in Ca²⁺ Homeostasis and Mitochondrion-Dependent Cell Death in Human Leukemia K562 Cells. *Front Pharmacol.* 2018 Jun 6;9:601.
92. Hong X, Yu Z, Chen Z, Jiang H, Niu Y, Huang Z. High molecular weight fibroblast growth factor 2 induces apoptosis by interacting with complement component 1 Q subcomponent-binding protein in vitro. *J Cell Biochem.* 2018 Nov;119(11):8807-8817.
93. Yang J, Chen Z, Liu N, Chen Y. Ribosomal protein L10 in mitochondria serves as a regulator for ROS level in pancreatic cancer cells. *Redox Biol.* 2018 Oct;19:158-165.
94. Liu L, Zuo Z, Lu S, Wang L, Liu A, Liu X. Silencing of PINK1 represses cell growth, migration and induces apoptosis of lung cancer cells. *Biomed Pharmacother.* 2018 Oct;106:333-341.
95. Chang M, Song X, Geng X, Wang X, Wang W, Chen TC, Xie L, Song X. Temozolomide-Perillyl alcohol conjugate impairs Mitophagy flux by inducing lysosomal dysfunction in non-small cell lung Cancer cells and sensitizes them to irradiation. *J EXP CLIN CANC RES.* 2018 Oct 16;37(1):250.
96. Qiao C, Ye W, Li S, Wang H, Ding X. Icaritin modulates mitochondrial function and apoptosis in high glucose-induced glomerular podocytes through G protein-coupled estrogen receptors. *Mol Cell Endocrinol.* 2018 Sep 15;473:146-155.
97. Zhang W, Lu Q, Dong Y, Yue Y, Xiong S. Rv3033, as an Emerging Anti-apoptosis Factor, Facilitates Mycobacteria Survival via Inhibiting Macrophage Intrinsic Apoptosis. *Front Immunol.* 2018 Sep 21;9:2136.
98. Wang L, Hu Y, Hao Y, Li L, Zheng C, Zhao H, Niu M, Yin Y, Zhang Z, Zhang Y. Tumor-targeting core-shell structured nanoparticles for drug procedural controlled release and cancer sonodynamic combined therapy. *J Control Release.* 2018 Sep 28;286:74-84.
99. Kong Q, Lv J, Yan S, Chang KJ, Wang G. A Novel Naphthyridine Derivative, 3u, Induces Necroptosis at Low Concentrations and Apoptosis at High Concentrations in Human Melanoma A375 Cells. *Int J Mol Sci.* 2018 Sep 29;19(10). pii: E2975.
100. Song Z, Wang W, Li N, Yan S, Rong K, Lan T, Xia P. Sphingosine kinase 2 promotes lipotoxicity in pancreatic β -cells and the progression of diabetes. *FASEB J.* 2019 Mar;33(3):3636-3646.
101. Zhang J, Feng J, Ma D, Wang F, Wang Y, Li C, Wang X, Yin X, Zhang M, Dagda RK, Zhang Y. Neuroprotective Mitochondrial Remodeling by AKAP121/PKA Protects HT22 Cell from Glutamate-Induced Oxidative Stress. *Mol Neurobiol.* 2019 Aug;56(8):5586-5607.
102. Wang H, Zhao P, Huang Q, Chi Y, Dong S, Fan J. Bisphenol-A induces neurodegeneration through disturbance of intracellular calcium homeostasis in human embryonic stem cells-derived cortical neurons. *Chemosphere.* 2019 Aug;229:618-630.
103. Zhang C, Liao P, Liang R, Zheng X, Jian J. Epigallocatechin gallate prevents mitochondrial impairment and cell apoptosis by regulating miR-30a/p53 axis. *Phytomedicine.* 2019 Aug;61:152845.
104. Zhong X, Feng L, Xu WH, Wu X, Ding YD, Zhou Y, Lei CQ, Shu HB. The zinc-finger protein ZFYVE1 modulates TLR3-mediated signaling by facilitating TLR3 ligand binding. *Cell Mol Immunol.* 2019 Aug 6.
105. Zhang W, Liu F, Che Z, Wu M, Tang Z, Liu J, Yang D. ASB3 knockdown promotes mitochondrial apoptosis via activating the interdependent cleavage of Beclin1 and caspase-8 in hepatocellular carcinoma. *Sci China Life Sci.* 2019 Dec;62(12):1692-1702.
106. Wang X, Tang D, Zou Y, Wu X, Chen Y, Li H, Chen S, Shi Y, Niu H. A mitochondrial-targeted peptide ameliorated podocyte apoptosis through a HOCl-alb-enhanced and mitochondria-dependent signalling pathway in diabetic rats and in vitro. *J ENZYM INHIB MED CH.* 2019 Dec;34(1):394-404.
107. Wu N, Zhang X, Bao Y, Yu H, Jia D, Ma C. Down-regulation of GAS5 ameliorates myocardial ischaemia/reperfusion injury via the miR-335/ROCK1/AKT/GSK-3 β axis. *J Cell Mol Med.* 2019 Dec;23(12):8420-8431.
108. Zhang C, Yang C, Li N, Liu X, He J, Chen X, Ding Y, Tong C, Peng C, Yin H, Wang Y, Gao R. Elevated insulin levels compromise endometrial decidualization in mice with decrease in uterine apoptosis in early-stage pregnancy. *Arch Toxicol.* 2019 Dec;93(12):3601-3615.
109. Gu L, Cai N, Lyu Y, Yao L, Wang F, Xu H, Hu Z, Li H, Xu X. γ -Mangostin Ameliorates Free Fatty Acid-Induced Lipid Accumulation via the SIRT1/LKB1/AMPK Pathway in HepG2 and L02 Cells. *J AGR FOOD CHEM.* 2019 Dec 18;67(50):13929-13938.
110. Kong H, Jiang CY, Hu L, Teng P, Zhang Y, Pan XX, Sun XD, Liu WT. Morphine induces dysfunction of PINK1/Parkin-mediated mitophagy in spinal cord neurons implying involvement in antinociceptive tolerance. *J Mol Cell Biol.* 2019 Dec 19;11(12):1056-1068.
111. Zhang C, Hao X, Chang J, Geng Z, Wang Z. Mn-TAT PTD-Ngb attenuates oxidative injury by an enhanced ROS scavenging ability and the regulation of redox signaling pathway. *SCI REP-UK.* 2019 Dec 27;9(1):20103.
112. Li Y, Jiang N, Fan Y, Zhou Y, Liu W, Xue M, Meng Y, Zeng L. Chinese Giant Salamander (*Andrias davidianus*) Iridovirus Infection Leads to Apoptotic Cell Death through Mitochondrial Damage, Caspases Activation, and Expression of Apoptotic-Related Genes. *Int J Mol Sci.* 2019 Dec 5;20(24). pii: E6149.
113. Yang J, Zhu C, Ye J, Lv Y, Wang L, Chen Z, Jiang Z. Protection of Porcine Intestinal-Epithelial Cells from Deoxynivalenol-Induced Damage by Resveratrol via the Nrf2 Signaling Pathway. *J AGR FOOD CHEM.* 2019 Feb 13;67(6):1726-1735.
114. Yuan Y, Yang J, Chen J, Zhao S, Wang T, Zou H, Wang Y, Gu J, Liu X, Bian J, Liu Z. Alpha-lipoic acid protects against cadmium-induced neuronal injury by inhibiting the endoplasmic reticulum stress eIF2 α -ATF4 pathway in rat cortical neurons in vitro and in vivo. *Toxicology.* 2019 Feb 15;414:1-13.
115. Liao Y, Hussain T, Liu C, Cui Y, Wang J, Yao J, Chen H, Song Y, Sabir N, Hussain M,

- Zhao D, Zhou X. Endoplasmic Reticulum Stress Induces Macrophages to Produce IL-1 β During Mycobacterium bovis Infection via a Positive Feedback Loop Between Mitochondrial Damage and Inflammasome Activation. *Front Immunol*. 2019 Feb 21;10:268.
116. Li B, Cao Y, Meng G, Qian L, Xu T, Yan C, Luo O, Wang S, Wei J, Ding Y, Yu D. Targeting glutaminase 1 attenuates stemness properties in hepatocellular carcinoma by increasing reactive oxygen species and suppressing Wnt/beta-catenin pathway. *EBioMedicine*. 2019 Jan;39:239-254.
117. Li Z, Li Q, Lv W, Jiang L, Geng C, Yao X, Shi X, Liu Y, Cao J. The interaction of Atg4B and Bcl-2 plays an important role in Cd-induced crosstalk between apoptosis and autophagy through disassociation of Bcl-2-Becclin1 in A549 cells. *FREE RADICAL BIO MED*. 2019 Jan;130:576-591.
118. Hao M, Kong C, Jiang C, Hou R, Zhao X, Li J, Wang Y, Gao Y, Zhang H, Yang B, Jiang J. Polydopamine-coated Au-Ag nanoparticle-guided photothermal colorectal cancer therapy through multiple cell death pathways. *Acta Biomater*. 2019 Jan 1;83:414-424.
119. Zhao X, Wu Y, Li J, Li D, Jin Y, Zhu P, Liu Y, Zhuang Y, Yu S, Cao W, Wei H, Wang X, Han Y, Chen G. JNK activation-mediated nuclear SIRT1 protein suppression contributes to silica nanoparticle-induced pulmonary damage via p53 acetylation and cytoplasmic localisation. *Toxicology*. 2019 Jul 1;423:42-53.
120. Bao D, Zhao J, Zhou X, Yang Q, Chen Y, Zhu J, Yuan P, Yang J, Qin T, Wan S, Xing J. Mitochondrial fission-induced mtDNA stress promotes tumor-associated macrophage infiltration and HCC progression. *Oncogene*. 2019 Jun;38(25):5007-5020.
121. He W, Liang B, Wang C, Li S, Zhao Y, Huang Q, Liu Z, Yao Z, Wu Q, Liao W, Zhang S, Liu Y, Xiang Y, Liu J, Shi M. MSC-regulated lncRNA MACC1-AS1 promotes stemness and chemoresistance through fatty acid oxidation in gastric cancer. *Oncogene*. 2019 Jun;38(23):4637-4654.
122. Chen J, Wang Y, Du G, Zhang W, Cao T, Shi L, Wang Y, Mi J, Tang G. Down-regulation of miRNA-27b-3p suppresses keratinocytes apoptosis in oral lichen planus. *J Cell Mol Med*. 2019 Jun;23(6):4326-4337.
123. Guo T, Liu T, Sun Y, Liu X, Xiong R, Li H, Li Z, Zhang Z, Tian Z, Tian Y. Sonodynamic therapy inhibits palmitate-induced beta cell dysfunction via PINK1/Parkin-dependent mitophagy. *Cell Death Dis*. 2019 Jun 11;10(6):457.
124. Zhang Y, Xi X, Mei Y, Zhao X, Zhou L, Ma M, Liu S, Zha X, Yang Y. High-glucose induces retinal pigment epithelium mitochondrial pathways of apoptosis and inhibits mitophagy by regulating ROS/PINK1/Parkin signal pathway. *Biomed Pharmacother*. 2019 Mar;111:1315-1325.
125. Li MY, Ding JQ, Tang Q, Hao MM, Wang BH, Wu J, Yu LZ, Jiao M, Luo BH, Xie M, Zhu HL. SIRT1 activation by SRT1720 attenuates bone cancer pain via preventing Drp1-mediated mitochondrial fission. *BBA-MOL BASIS DIS*. 2019 Mar 1;1865(3):587-598.
126. Qi W, Zhou L, Zhao T, Ding S, Xu Q, Han X, Zhao Y, Song X, Zhao T, Zhang X, Ye L. Effect of the TYK-2/STAT-3 pathway on lipid accumulation induced by mono-2-ethylhexyl phthalate. *Mol Cell Endocrinol*. 2019 Mar 15;484:52-58.
127. Hu B, Hu S, Yang M, Liao Z, Zhang D, Luo Q, Zhang X, Li H. Growth Hormone Receptor Gene is Essential for Chicken Mitochondrial Function In Vivo and In Vitro. *Int J Mol Sci*. 2019 Mar 31;20(7). pii: E1608.
128. Du S, Li C, Lu Y, Lei X, Zhang Y, Li S, Liu F, Chen Y, Weng D, Chen J. Dioscin Alleviates Crystalline Silica-Induced Pulmonary Inflammation and Fibrosis through Promoting Alveolar Macrophage Autophagy. *Theranostics*. 2019 Mar 7;9(7):1878-1892.
129. Fan J, Wu M, Wang J, Ren D, Zhao J, Yang G. 1,7-Bis(4-hydroxyphenyl)-1,4-heptadien-3-one induces lung cancer cell apoptosis via the PI3K/Akt and ERK1/2 pathways. *J Cell Physiol*. 2019 May;234(5):6336-6349.
130. Wang K, Ma H, Liu H, Ye W, Li Z, Cheng L, Zhang L, Lei Y, Shen L, Zhang F. The Glycoprotein and Nucleocapsid Protein of Hantaviruses Manipulate Autophagy Flux to Restrain Host Innate Immune Responses. *Cell Rep*. 2019 May 14;27(7):2075-2091.e5.
131. Liu T, Li X, Wu M, Qin L, Chen H, Qian P. Seneca Valley Virus 2C and 3Cpro Induce Apoptosis via Mitochondrion-Mediated Intrinsic Pathway. *Front Microbiol*. 2019 May 29;10:1202.
132. Hu L, Ding M, Tang D, Gao E, Li C, Wang K, Qi B, Qiu J, Zhao H, Chang P, Fu F, Li Y. Targeting mitochondrial dynamics by regulating Mfn2 for therapeutic intervention in diabetic cardiomyopathy. *Theranostics*. 2019 May 31;9(13):3687-3706.
133. Sabir N, Hussain T, Liao Y, Wang J, Song Y, Shahid M, Cheng G, Mangi MH, Yao J, Yang L, Zhao D, Zhou X. Kallikrein 12 Regulates Innate Resistance of Murine Macrophages against Mycobacterium bovis Infection by Modulating Autophagy and Apoptosis. *Cells*. 2019 May 5;8(5). pii: E415.
134. Zhao B, Luo J, Wang Y, Zhou L, Che J, Wang F, Peng S, Zhang G, Shang P. Metformin Suppresses Self-Renewal Ability and Tumorigenicity of Osteosarcoma Stem Cells via Reactive Oxygen Species-Mediated Apoptosis and Autophagy. *Oxid Med Cell Longev*. 2019 Nov 18;2019:9290728.
135. Hu Y, Huang L, Shen M, Liu Y, Liu G, Wu Y, Ding F, Ma K, Wang W, Zhang Y, Shao Z, Cai X, Xiong L. Pioglitazone Protects Compression-Mediated Apoptosis in Nucleus Pulposus Mesenchymal Stem Cells by Suppressing Oxidative Stress. *Oxid Med Cell Longev*. 2019 Nov 22;2019:4764071.
136. Wang R, Zhang M, Ou Z, He W, Chen L, Zhang J, He Y, Xu R, Jiang S, Qi L, Wang L. Long noncoding RNA DNMT3OS promotes prostate stromal cells transformation via the miR-29a/29b/COL3A1 and miR-361/TGF β 1 axes. *AGING-US*. 2019 Nov 6;11(21):9442-9460.
137. Chen R, Qiao Y, Hu W, Cheng Q, Xie H, Zhou L, Xu X, Zheng S, Jiang D. LY2228820 induces synergistic anti-cancer effects with anti-microtubule chemotherapeutic agents independent of P-glycoprotein in multidrug resistant cancer cells. *Am J Cancer Res*. 2019 Oct 1;9(10):2216-2232. eCollection 2019.
138. Tan Y, Jin Y, Wang Q, Huang J, Wu X, Ren Z. Perilipin 5 Protects against Cellular Oxidative Stress by Enhancing Mitochondrial Function in HepG2 Cells. *Cells*. 2019 Oct 11;8(10). pii: E1241.
139. Zhou D, Jiang Y. Sirtuin 3 attenuates neuroinflammation-induced apoptosis in BV-2 microglia. *AGING-US*. 2019 Oct 20;11(20):9075-9089.
140. Lin P, Cheng Y, Song S, Qiu J, Yi L, Cao Z, Li J, Cheng S, Wang J. Viral Nonstructural Protein 1 Induces Mitochondrion-Mediated Apoptosis in Mink Enteritis Virus Infection. *J Virol*. 2019 Oct 29;93(22). pii: e01249-19.
141. Chen C, Wang S, Liu P. Deferoxamine Enhanced Mitochondrial Iron Accumulation and Promoted Cell Migration in Triple-Negative MDA-MB-231 Breast Cancer Cells Via a ROS-Dependent Mechanism. *Int J Mol Sci*. 2019 Oct 8;20(19). pii: E4952.
142. Zhang L, Chen T, Dou Y, Zhang S, Liu H, Khishignyam T, Li X, Zuo D, Zhang Z, Jin M, Wang R, Qiu Y, Zhong Y, Kong D. Atorvastatin Exerts Antileukemia Activity via Inhibiting Mevalonate-YAP Axis in K562 and HL60 Cells. *Front Oncol*. 2019 Oct 9;9:1032.
143. Ji X, Wei X, Qian J, Mo X, Kai G, An F, Lu Y. 2',4'-Dihydroxy-6'-methoxy-3',5'-dimethylchalcone induced apoptosis and G1 cell cycle arrest through PI3K/AKT pathway in BEL-7402/5-FU cells. *Food Chem Toxicol*. 2019 Sep;131:110533.
144. Hao Y, Chen H, Xu W, Gao J, Yang Y, Zhang Y, Tao L. Roundup[®] confers cytotoxicity through DNA damage and Mitochondria-Associated apoptosis induction. *Environ Pollut*. 2019 Sep;252(Pt A):917-923.
145. Zhang Y, Hou Q, Li X, Zhu J, Wang W, Li B, Zhao L, Xia H. Enrichment of novel quinazoline derivatives with high antitumor activity in mitochondria tracked by its self-fluorescence. *Eur J Med Chem*. 2019 Sep 15;178:417-432.
146. Wang Z, Ma T, Huang Y, Wang J, Chen Y, Kistler HC, Ma Z, Yin Y. A fungal ABC transporter FgAtm1 regulates iron homeostasis via the transcription factor cascade FgAraA-HapX. *PLoS Pathog*. 2019 Sep 23;15(9):e1007791.
147. Zhang C, Tan Z, Xie Y, Zhao Y, Huang TY, Lu Z, Luo H, Can D, Xu H, Zhang YW, Zhang X. Apoptosis Mediates Lesions Induced by Oxidative Stress Through the JNK-FoxO1 Pathway. *Front Aging Neurosci*. 2019 Sep 4;11:243.
148. Li X, Luo S, Zhang J, Yuan Y, Jiang W, Zhu H, Ding X, Zhan L, Wu H, Xie Y, Song R, Pan Z, Lu Y. lncRNA H19 Alleviated Myocardial I/RI via Suppressing miR-877-3p/Bcl-2-Mediated Mitochondrial Apoptosis. *MOL THER-NUCL ACIDS*. 2019 Sep

- 6;17:297-309.
149. Wang J, Deng H, Zhang J, Wu D, Li J, Ma J, Dong W. α -Hederin induces the apoptosis of gastric cancer cells accompanied by glutathione decrement and reactive oxygen species generation via activating mitochondrial dependent pathway. *Phytother Res*. 2020 Mar;34(3):601-611.
150. Liu Y, Li Q, Xiong X, Huang Y, Zhou Z. Mitochondria-targeting and cell-penetrating peptides-co-modified HPMA copolymers for enhancing therapeutic efficacy of α -tocopheryl succinate. *J Mater Chem B*. 2018 Dec 14;6(46):7674-7683.
151. Zhang W, Hu X, Shen Q, Xing D. Mitochondria-specific drug release and reactive oxygen species burst induced by polyprodrug nanoreactors can enhance chemotherapy. *Nat Commun*. 2019 Apr 12;10(1):1704.
152. Yi Liao, Tariq Hussain, Chunfa Liu, Yongyong Cui, Jie Wang, Jiao Yao, Hehua Chen, Yinjuan Song, Naveed Sabir, Mazhar Hussain, Deming Zhao, Xiangmei Zhou. Endoplasmic Reticulum Stress Induces Macrophages to Produce IL-1 β During Mycobacterium bovis Infection via a Positive Feedback Loop Between Mitochondrial Damage and Inflammasome Activation. *Front Immunol*. 2019 Feb 21;10:268.
153. Peng S, Wang Y, Zhou Y, Ma T, Wang Y, Li J, Huang F, Kou J, Qi L, Liu B, Liu K. Rare ginsenosides ameliorate lipid overload-induced myocardial insulin resistance via modulating metabolic flexibility. *Phytomedicine*. 2019 May;58:152745.
154. Wei Xue, Xin Wang, Hong Tang, Fanfan Sun, Huaqing Zhu, Dake Huang, Liuyi Dong. Vitexin attenuates myocardial ischemia/reperfusion injury in rats by regulating mitochondrial dysfunction induced by mitochondrial dynamics imbalance. *Biomed Pharmacother*. 2020 Apr;124:109849.
155. Lu-Hong Cong, Tao Li, Hui Wang, Yi-Na Wu, Shu-Peng Wang, Yu-Yue Zhao, Guo-Qiang Zhang, Jun Duan. IL-17A-producing T cells exacerbate fine particulate matter-induced lung inflammation and fibrosis by inhibiting PI3K/Akt/mTOR-mediated autophagy. *J Cell Mol Med*. 2020 Aug;24(15):8532-8544.
156. Sen Wei, Tianming Qiu, Xiaofeng Yao, Ningning Wang, Liping Jiang, Xue Jia, Ye Tao, Zhidong Wang, Pei Pei, Jingyuan Zhang, Yuhua Zhu, Guang Yang, Xiaofang Liu, Shuang Liu, Xiance Sun. Arsenic induces pancreatic dysfunction and ferroptosis via mitochondrial ROS-autophagy-lysosomal pathway. *J Hazard Mater*. 2020 Feb 15;384:121390.
157. Tingting Li, Yang Li, Tong Liu, Bingtao Hu, Jiabin Li, Chen Liu, Tao Liu, Feng Li. Mitochondrial PAK6 inhibits prostate cancer cell apoptosis via the PAK6-SIRT4-ANT2 complex. *Theranostics*. 2020 Feb 3;10(6):2571-2586.
158. Jie Zhang, Yiyi Li, Chao Wang, Yaya Wang, Yangyang Zhang, Liqin Huang, Zhaohui Zhang. Lysophosphatidic Acid Induces Apoptosis of PC12 Cells Through LPA1 Receptor/LPA2 Receptor/MAPK Signaling Pathway. *Front Mol Neurosci*. 2020 Feb 6;13:16.
159. Li Zhang, Yongfeng Yang, Li Chai, Hong Bu, Ying Yang, Hong Huang, Jingjing Ran, Yihan Zhu, Li Li, Fei Chen, Weimin Li. FRK plays an oncogenic role in non-small cell lung cancer by enhancing the stemness phenotype via induction of metabolic reprogramming. *Int J Cancer*. 2020 Jan 1;146(1):208-222.
160. Hui-Juan Liu, Yuan Qin, Zi-Han Zhao, Yang Zhang, Jia-Huan Yang, Deng-Hui Zhai, Fang Cui, Ce Luo, Man-Xi Lu, Piao-Piao Liu, Heng-Wei Xu, Kun Li, Bo Sun, Shuang Chen, Hong-Gang Zhou, Cheng Yang, Tao Sun. Lentiran-functionalized Selenium Nanoparticles target Tumor Cell Mitochondria via TLR4/TRAFF3/MFN1 pathway. *Theranostics*. 2020 Jul 11;10(20):9083-9099.
161. Xuan Chen, Shichao Zhuo, Wenzhe Xu, Xue Chen, Di Huang, Xiaozheng Sun, Yufeng Cheng. Isocitrate dehydrogenase 2 contributes to radiation resistance of oesophageal squamous cell carcinoma via regulating mitochondrial function and ROS/pAKT signalling. *BRIT J CANCER*. 2020 Jul;123(1):126-136.
162. Ying Chen, Rui Li, Yuqi Zhu, Sixia Zhong, Jinjun Qian, Dongqing Yang, Artur Jurczyszyn, Meral Beksac, Chunyan Gu, Ye Yang. Dihydroartemisinin Induces Growth Arrest and Overcomes Dexamethasone Resistance in Multiple Myeloma. *Front Oncol*. 2020 May 15;10:767.
163. Chongxi Fan, Jianyu Feng, Chi Tang, Zhengbin Zhang, Yingtong Feng, Weixun Duan, Mingming Zhai, Zedong Yan, Liwen Zhu, Lele Feng, Hanzhao Zhu, Erping Luo. Melatonin suppresses ER stress-dependent proapoptotic effects via AMPK in bone mesenchymal stem cells during mitochondrial oxidative damage. *Stem Cell Res Ther*. 2020 Oct 15;11(1):442.
164. Yujing Zhang, Yu Ma, Yuanyuan Xiao, Chan Lu, Fang Xiao. Drp1-dependent mitochondrial fission contributes to Cr(VI)-induced mitophagy and hepatotoxicity. *ECOTOX ENVIRON SAFE*. 2020 Oct 15;203:110928.
165. Yue Guo, Ruiping Gu, Dekang Gan, Fangyuan Hu, Gang Li, Gezhi Xu. Mitochondrial DNA drives noncanonical inflammation activation via cGAS-STING signaling pathway in retinal microvascular endothelial cells. *Cell Commun Signal*. 2020 Oct 28;18(1):172.
166. Yun Zhao, Jinyun Zhu, Ning Zhang, Qi Liu, Yingchao Wang, Xinyang Hu, Jinghai Chen, Wei Zhu, Hong Yu. GDF11 enhances therapeutic efficacy of mesenchymal stem cells for myocardial infarction via YME1L-mediated OPA1 processing. *STEM CELL TRANSL MED*. 2020 Oct;9(10):1257-1271.
167. Limei Xu, Tingting Wu, Shihua Lu, Xiaohe Hao, Junchao Qin, Jing Wang, Xiyu Zhang, Qiao Liu, Beihua Kong, Yaoqin Gong, Zhaojian Liu, Changshun Shao. Mitochondrial superoxide contributes to oxidative stress exacerbated by DNA damage response in RAD51-depleted ovarian cancer cells. *Redox Biol*. 2020 Sep;36:101604.
168. Xiangfei Zhang, Yuting Wang, Ming Chen, Ming Zeng. Hexavalent chromium-induced apoptosis in Hep3B cells is accompanied by calcium overload, mitochondrial damage, and AIF translocation. *ECOTOX ENVIRON SAFE*. 2021 Jan 15;208:111391.
169. Xinyu Feng, Shanjie Wang, Xingjun Yang, Jie Lin, Wanrong Man, Yuan Dong, Yan Zhang, Zhijing Zhao, Haichang Wang, Dongdong Sun. Mst1 Knockout Alleviates Mitochondrial Fission and Mitigates Left Ventricular Remodeling in the Development of Diabetic Cardiomyopathy. *Front Cell Dev Biol*. 2021 Jan 21;8:628842.
170. Bi-Ying Zhang, Lei Zhang, Yi-Meng Chen, Xin Qiao, Shu-Ling Zhao, Ping Li, Jin-Feng Liu, Xiaodong Wen, Jie Yang. Corosolic acid inhibits colorectal cancer cells growth as a novel HER2/HER3 heterodimerization inhibitor. *BRIT J PHARMACOL*. 2021 Mar;178(6):1475-1491.
171. Ye Li, Xin Wei, Shu-Li Liu, Ying Zhao, Si Jin, Xiao-Yan Yang. Salidroside protects cardiac function in mice with diabetic cardiomyopathy via activation of mitochondrial biogenesis and SIRT3. *Phytother Res*. 2021 Aug;35(8):4579-4591.
172. Wenqing Fan, Weifeng Yuan, Xiuyan Ding, Liqian Zhu. β -catenin has potential effects on the expression, subcellular localization, and release of high mobility group box 1 during bovine herpesvirus 1 productive infection in MDBK cell culture. *Virulence*. 2021 Dec;12(1):1345-1361.
173. Yilin Zhao, Yaya Wang, Jing Zhao, Zhaohui Zhang, Mingpeng Jin, Feng Zhou, Chao Jin, Jing Zhang, Jinliang Xing, Nan Wang, Xianli He, Tingting Ren. PDE2 Inhibits PKA-Mediated Phosphorylation of TFAM to Promote Mitochondrial Ca²⁺-Induced Colorectal Cancer Growth. *Front Oncol*. 2021 Jun 21;11:663778.
174. Zhu Yun Zhao, Peng Zhang, Wei Li, Dengchuan Wang, Changneng Ke, Yueming Liu, James Chung-Man Ho, Paul Ning-Man Cheng, Shi Xu. Pegylated Recombinant Human Arginase 1 Induces Autophagy and Apoptosis via the ROS-Activated AKT/mTOR Pathway in Bladder Cancer Cells. *Oxid Med Cell Longev*. 2021 Mar 18;2021:5510663.
175. Lin Zhang, Ruqiu Fu, Dongyu Duan, Ziwei Li, Bin Li, Yue Ming, Li Li, Rui Ni, Jianhong Chen. Cyclovirobuxine D Induces Apoptosis and Mitochondrial Damage in Glioblastoma Cells Through ROS-Mediated Mitochondrial Translocation of Cofilin. *Front Oncol*. 2021 Mar 19;11:656184.
176. Bing-Xin Chu, Ya-Nan Li, Ning- Liu, Lan-Xin Yuan, Shi-Yan Chen, Yao-Hong Zhu, Jiu-Feng Wang. Salmonella Infantis Delays the Death of Infected Epithelial Cells to Aggravate Bacterial Load by Intermittent Phosphorylation of Akt With SopB. *Front Immunol*. 2021 Nov 5;12:757909.
177. Dingyi Lv, Minghao Luo, Zhe Cheng, Ruiyu Wang, Xiyang Yang, Yongzheng Guo, Longxiang Huang, Xiang Li, Bi Huang, Jian Shen, Suxin Luo, Jianghong Yan. Tubeimoside I Ameliorates Myocardial Ischemia-Reperfusion Injury through SIRT3-Dependent Regulation of Oxidative Stress and Apoptosis. *Oxid Med Cell*

Longev. 2021 Nov 9;2021:5577019.

178. Zhihui Yin, Xinyue Geng, Zhengyi Zhang, Ying Wang, Xiaoyan Gao. Rhein Relieves Oxidative Stress in an A β 1-42 Oligomer-Burdened Neuron Model by Activating the SIRT1/PGC-1 α -Regulated Mitochondrial Biogenesis. *Front Pharmacol.* 2021 Sep 10;12:746711.
179. Jing Sun, Wugui Chen, Songtao Li, Sizhen Yang, Ying Zhang, Xu Hu, Hao Qiu, Jigong Wu, Shangcheng Xu, Tongwei Chu. Nox4 Promotes RANKL-Induced Autophagy and Osteoclastogenesis via Activating ROS/PERK/eIF-2 α /ATF4 Pathway. *Front Pharmacol.* 2021 Sep 28;12:751845.
180. Jiayu Sun, Hiu Tung Jessica Lo, Lei Fan, Tsz Lam Yiu, Adnan Shakoar, Gang Li, Wayne Y W Lee, Dong Sun. High-efficiency quantitative control of mitochondrial transfer based on droplet microfluidics and its application on muscle regeneration. *Sci Adv.* 2022 Aug 19;8(33):eabp9245.
181. Xuemei Bai, Chao Sui, Feng Liu, Tian Chen, Lei Zhang, Yi Zheng, Bingyu Liu, Chengjiang Gao. The protein arginine methyltransferase PRMT9 attenuates MAVS activation through arginine methylation. *Nat Commun.* 2022 Aug 26;13(1):5016.
182. Kui Xiao, Niyuan Zhang, Feifei Li, Dayong Hou, Xiaoyi Zhai, Wanhai Xu, Gelin Wang, Hao Wang, Liang Zhao. Pro-oxidant response and accelerated ferroptosis caused by synergetic Au(I) release in hypercarbon-centered gold(I) cluster prodrugs. *Nat Commun.* 2022 Aug 9;13(1):4669.
183. Qianting Luo, Xingyang Li, Wenchao Zhong, Wei Cao, Mingjing Zhu, Antong Wu, Wanyi Chen, Zhitong Ye, Qiao Han, Duraipandy Natarajan, Janak L Pathak, Qingbin Zhang. Dicalcium silicate-induced mitochondrial dysfunction and autophagy-mediated macrophagic inflammation promotes osteogenic differentiation of BMSCs. *Regen Biomater.* 2021 Dec 13;9:rbab075.
184. Xin Sun, Yuhan Shu, Guiqin Ye, Caixia Wu, Mengting Xu, Ruilan Gao, Dongsheng Huang, Jianbin Zhang. Histone deacetylase inhibitors inhibit cervical cancer growth through Parkin acetylation-mediated mitophagy. *Acta Pharm Sin B.* 2022 Feb;12(2):838-852.
185. Rongqing Li, Xueqin Li, Jie Zhao, Fandong Meng, Chen Yao, Ensi Bao, Na Sun, Xin Chen, Wanpeng Cheng, Hui Hua, Xiangyang Li, Bo Wang, Hui Wang, Xiucheng Pan, Hongjuan You, Jing Yang, Takayuki Ikezoe. Mitochondrial STAT3 exacerbates LPS-induced sepsis by driving CPT1 α -mediated fatty acid oxidation. *Theranostics.* 2022 Jan 1;12(2):976-998.
186. Cheng Jiang, Jiechun Zhang, Huiwen Xie, Huiting Guan, Rui Li, Caixia Chen, Hongzhen Dong, You Zhou, Wei Zhang. Baicalein suppresses lipopolysaccharide-induced acute lung injury by regulating Drp1-dependent mitochondrial fission of macrophages. *Biomed Pharmacother.* 2022 Jan;145:112408.
187. Yinjuan Song, Xin Ge, Yulan Chen, Tariq Hussain, Zhengmin Liang, Yuhui Dong, Yuanzhi Wang, Chengyuan Tang, Xiangmei Zhou. *Mycobacterium bovis* induces mitophagy to suppress host xenophagy for its intracellular survival. *Autophagy.* 2022 Jun;18(6):1401-1415.
188. Hui Shi, Ying Yu, Xiaoxiao Liu, Yong Yu, Minghui Li, Yucheng Wang, Yunzeng Zou, Ruizhen Chen, Junbo Ge. Inhibition of calpain reduces cell apoptosis by suppressing mitochondrial fission in acute viral myocarditis. *Cell Biol Toxicol.* 2022 Jun;38(3):487-504.
189. Wei Huang, Weidang Xie, Hanhui Zhong, Shumin Cai, Qiaobing Huang, Youtan Liu, Zhenhua Zeng, Yanan Liu. Cytosolic p53 Inhibits Parkin-Mediated Mitophagy and Promotes Acute Liver Injury Induced by Heat Stroke. *Front Immunol.* 2022 May 13;13:859231.
190. Hao Zheng, Senlin Huang, Guoquan Wei, Yili Sun, Chuling Li, Xiaoyun Si, Yijin Chen, Zhenquan Tang, Xinzhong Li, Yanmei Chen, Wangjun Liao, Yulin Liao, Jianping Bin. CircRNA Samd4 induces cardiac repair after myocardial infarction by blocking mitochondria-derived ROS output. *Mol Ther.* 2022 Nov 2;30(11):3477-3498.
191. Gang Zhong, Huiping Long, Tian Zhou, Yisi Liu, Jianping Zhao, Jinyu Han, Xiaohu Yang, Yin Yu, Fei Chen, Shengliang Shi. Blood-brain barrier Permeable nanoparticles for Alzheimer's disease treatment by selective mitophagy of microglia. *Biomaterials.* 2022 Sep;288:121690.
192. Jing-Yi Zhou, Rui-Rui Yang, Jie Chang, Jia Song, Zi-Sheng Fan, Ying-Hui Zhang, Cheng-Hao Lu, Hua-Liang Jiang, Ming-Yue Zheng, Su-Lin Zhang. Discovery and identification of a novel small molecule BCL-2 inhibitor that binds to the BH4 domain. *Acta Pharmacol Sin.* 2023 Feb;44(2):475-485.

Version 2024.03.12