# Prof. Kee-Lung Chang (張基隆 教授)

## PERSONAL INFORMATION

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## EDUCATION AND EXPERIENCE:

| | |
|---|---|
| 2006-date | Chair, Department of Biochemistry, School of Medicine, Kaohsiung Medical University |
| 2006-2007 | Dean, Graduate Institute of Biochemistry, Kaohsiung Medical University |
| 2004-date | Professor, Department of Biochemistry, School of Medicine, Kaohsiung Medical University |
| 2003-2005 | Chair, Center for Faculty Development, Kaohsiung Medical University |
| 1996-1996 | Visiting associate professor, German Cancer Research Center, DKFZ Heidelberg University, Germany |
| 1994-2004 | Associate professor, Department of Biochemistry, School of Medicine, Kaohsiung Medical University |
| 1989-1993 | Instructor, Department of Biochemistry, School of Medicine, Kaohsiung Medical University |
| 1989-1993 | Ph.D., Graduate Institute of Medicine, Kaohsiung Medical University |

## SPECIALTIES:

Biochemistry, Immunology, Nutrition, Nutrition Immunology, Medical Biochemistry, Molecular and Cellular Immunology

**PUBLICATIONS:**

1. Huang LW , Hsieh BS , Cheng HL , Hu YC , Chang WT , **Chang KL**[*]. Arecoline Decreases Interleukin-6 Production and Induces Apoptosis and Cell Cycle Arrest in Human Basal Cell Carcinoma Cells. *Toxicology and Applied Pharmacology* (revised 2011)

2. Hung TC, Huang LW, Su SJ, Hsieh BS, Cheng HL, Hu YC, Chen YH, Hwang CC, **Chang KL**[*]**.** Hemeoxygenase-1 expression in response to arecoline-induced oxidative stress in human umbilical vein endothelial cells. *International Journal of Cardiology* 2011; 151:187-94

3. Hsieh BS, Huang LW, Su SJ, Cheng HL, Hu YC, Hung TC, **Chang KL**[*]**.** Combined arginine and ascorbic acid treatment induces apoptosis in the hepatoma cell line HA22T/VGH and changes in redox status involving the pentose phosphate pathway and reactive oxygen and nitrogen species. *Journal of Nutritional Biochemistry* 2011; 22:234-41.

4. Cheng HL, Su SJ, Huang LW, Hsieh BS, Hu YC, Hung TC, **Chang KL**[*]**.** Arecoline induces HA22T/VGH hepatoma cells to undergo anoikis - involvement of STAT3 and RhoA activation. *Molecular Cancer* 2010; 9:126.

5. Chang WT, Lin HL, **Chang KL**, Ker CG, Huang MC, Chen JS, Kuo KK, Chen YL, [*]Lee KT. Progesterone increases epirubicin's apoptotic effects in HepG2 cells by S phase cell cycle arrest. *Hepato-gastroenterology* 2010; 97:107-13.

6. Chen CH, Su SJ, **Chang KL**, Huang MW, [*]Kuo SY. The garlic ingredient diallyl sulfide induces Ca(2+) mobilization in Madin-Darby canine kidney cells. *Food and Chemical Toxicology* 2009; 9:2344-50.

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apoptosis proteins in cell survival and proliferation in vitro. *Mutation Research* 2007; 628:107-16.

9. **Chang KL**[*], Hung TC, Hsieh BS, Cheng HL. Zinc at Pharmacological Concentrations Affects Cytokines Expression and Induces Apoptosis of Human Peripheral Blood Mononuclear Cells. *Nutrition* 2006; 22:465-474.

10. **Chang K.L.,*** Hung T.C., Hsieh B.S., Chen Y.H., Chen T.F. and Cheng H.L. Zinc at pharmacological concentrations affects cytokines expression and induces apoptosis of human peripheral blood mononuclear cells. *Nutrition* 22:465-474, 2006

11. Chang S.J., Chen S.M., Chiang S.L., **Chang K.L.** and Ko Y.C. Association between cigarette smoking and hypoxanthine guanine phosphoribosyltransferase activity. *The Kaohsiung Journal of Medical Sciences* 21:495-501, 2005.

12. Su S.J., Huang L.W., Pai L.S., Liu H.W. and **Chang K.L.*** Homocysteine at pathophysiologic concentrations activates human monocyte and induces cytokine expression and inhibits macrophage migration inhibitory factor expression. *Nutrition* 21:994-1002, 2005.

13. Hung H.S., Wu W.J., Cheng Y.W., Wu M.F., **Chang K.L.** and Lee. H. Cooking oil fumes improve lung adenocarcinoma cell survival through c-IAP2 induction. *Journal of Toxicology and Environmental Health Part A* 68:1525-1535, 2005.

14. Su S.J., Yeh T.M., Chuang W.J., Ho C.L., **Chang K.L.**, Cheng H.L., Liu H.S., Cheng H.L., Hsu P.Y. and Chow N.H.: The novel targets for anti-angiogenesis of genistein on human cancer cells. *Biochemical Pharmacology* 69:307-318, 2005.

15. Su T.R., **Chang K.L.**, Lee C.H., Chen C.H., Yang Y.H. and Shieh T.Y. Expression of tumor necrosis factor-alpha and its soluble receptors in betel-quid-chewing patients at different stages of treatment for oral squamous cell carcinoma. *Oral Oncology* 40:804-810, 2004.

16. Liao W.T., **Chang K.L.**, Yu C.L., Chen G.S., Chang L.W. and Yu H.S. Arsenic induces human keratinocyte apoptosis by the FAS/FAS ligand pathway, which correlates with alterations in nuclear factor-kappa B and activator protein-1 activity. *Journal of Investigative Dermatology* 122:125-129, 2004.

17. **Chang K.L.**, Kung M.L., Chow N.H. and Su S.J. Genistein arrests hepatoma cells at G2/M phase: involvement of ATM activation and upregulation of $p21^{waf1/cip1}$ and Wee1. *Biochemical Pharmacology* 67:717-726, 2004.

18. **Chang K.L.**, Liao W.T., Yu C.L., Lan C.C., Chang L.W. and Yu H.S. Effects of gallium on immune stimulation and apoptosis induction in human peripheral blood mononuclear cells. *Toxicology and Applied Pharmacology* 193:209-217, 2003.

19. Su S.H., Su S.J., Lin S.R. and **Chang K.L.*** Cell type- selectivity of cardiotoxin-III in modulating cytokine production and surface molecule expression by human peripheral mononuclear cells. *Toxicology and Applied Pharmacology* 193:97-105, 2003.

20. Su S.J., Chow N.H., Kung M.L., Hung T.C. and **Chang K.L.***: Effects of soy isoflavones on apoptosis induction and G2-M arrest in human hepatoma cells－involvement of caspase-3 activation, Bcl-2 and $Bcl\text{-}_{XL}$ down-regulation and Cdc2 kinase activity. *Nutrition and Cancer* 45:113-123, 2003.

## CONFERENCE PAPERS:

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2. Chang SJ, Hu YC, Cheng HL, Hsieh BS, **Chang KL***(2011) Trace Elements Participate in Regulating the Differentiation of Mouse M2-10B4 Mesenchymal Stem Cells. Twentieth-Sixth Joint Annual Conference of Biomedical Sciences (Taipei).
3. Cheng HL, Hsieh BS, Hu YC, Su SJ, Huang LW, **Chang KL*** (2011) Arecoline Induces HA22T/VGH Hepatoma Cells to Undergo Anoikis – Involvement of STAT3 and RhoA Activation. Twentieth-Sixth Joint Annual Conference of Biomedical Sciences (Taipei).
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5. Hsieh BS, Li YS, Li YW, **Chang KL*** (2010) Ascorbic Acid Induces Apoptosis of Human Hepatoma Cell Line HA22T/VGH. Twentieth-Fifth Joint Annual Conference of Biomedical Sciences (Taipei).
6. Li FY, Hu YC and **Chang KL*** (2010) Mineral elements zinc, manganese and copper prevent menopausal bone loss. Twentieth-Fifth Joint Annual Conference of Biomedical Sciences (Taipei).
7. Yeh JP, Hu YC, **Chang KL*** (2010) Chondroitin sulfate and L-ascorbic acid affect on osteoarthritis progression. Twentieth-Fifth Joint Annual Conference of Biomedical Sciences (Taipei).
8. Huang TC, Hsieh BS, **Chang KL*** (2010) Mono-iodoacetate Cause Human Chondrosarcoma Cell Line SW-1353 Death by Inducing Oxidative Stress. Twentieth-Fifth Joint Annual Conference of Biomedical Sciences (Taipei).
9. Cheng HY, Hsieh BS, **Chang KL*** (2009) Zinc and selenium protect skin keratinocyte against UVB irradiation. Twentieth-Fourth Joint Annual Conference of Biomedical Sciences (Taipei).
10. Chang SJ, Hu YC, Chen KM and **Chang KL*** (2009) Trace elements participate in regulating the differentiation of mouse M2-10B4 mesenchymal stem cells. Twentieth-Fourth Joint Annual Conference of Biomedical Sciences (Taipei).
11. Chen KM, **Chang KL***, Hu YC, Su SJ (2008) Effects of Soy Isoflavones Combined with Caffeine on Adipocyte Differentiation. The twentieth-third Joint Annual Conference of Biomedical Sciences (Taipei).
12. Su SJ, Hu YC, **Chang KL*** (2007) Combined Effects of Soy Isoflavones and $1\alpha,25(OH)_2D_3$ on Bone Loss by the Activation of Osteoblast and Inhibition of Osteoclast. The twentieth-second Joint Annual Conference of Biomedical Sciences (Taipei).
13. Hung YH, **Chang KL***, Su SJ (2007) The study of the efficacy of soy-isoflavone on obesity and biological activities in ovariectomized rat. The twentieth-second Joint Annual Conference of Biomedical Sciences (Taipei).
14. Cheng HL, Su SJ, Hu YC, **Chang KL*** (2007) Effects of Arecoline on Human Hepatoma Cell. The twentieth-second Joint Annual Conference of Biomedical Sciences (Taipei).
15. Su SJ *, Hsu HW , Hu YC, Wang LY, ChenYY, Huey WS, **Chang KL*** (2006) Preventive effects of soy isoflavones on bone loss by the activation of osteoblast and inhibition of osteoclas. 中華民國醫事檢驗學會 (Taipei).
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18. Fu CH, Hung TC, **Chang KL*** (2006) Effects of homocysteine on cell cycle progression and intercellular adhesion molecule-1 expression in human umbilical vein endothelial cells. The twentieth-first Joint Annual Conference of Biomedical Sciences (Taipei).
19. Pai LS, Fu CH, Su SJ, **Chang KL*** (2006) Homocysteine at pathophysiologic concentrations activates human monocyte and induces cytokine expression and inhibits macrophage migration inhibitory factor expression. The twentieth-first Joint Annual Conference of Biomedical Sciences (Taipei).
20. Huang C.W. and **Chang K.L.*** (2005) Study of arecoline in human basal cell carcinoma cell lines. The Twentieth Joint Annual Conference of Biomedical Sciences (Taipei).
21. Hsu H.W., **Chang K.L.**, Hu Y.C., Cheng H.L., Le Y.R., and Su S.J. (2005) Regulation of differentiation and function of osteoblast and osteoclast by soy isoflavones. Symposium on Recent Advances in Cellular and Molecular Biology (Renting).
22. Hsu H.W., **Chang K.L.**, Hu Y.C., Cheng H.L., Le Y.R. and Su S.J. (2005) The study of the efficacy of soy-isoflavone on bone mineral density and biological activities in ovariectomized and normal rats. The Twentieth Joint Annual Conference of Biomedical Sciences (Taipei)。
23. 蘇淑真、**張基隆**、吳克威、許恆瑋、胡祐甄：探討大豆異黃酮素對蝕骨細胞、造骨細胞及骨質密度消長之影響與其機制。「保健食品」研究開發計畫期末成果發表會，2004 年(國立中興大學)。
24. **Chang K.L.**, Kung M.L., Chow N.H. and Su S.J. (2004) Genistein arrests hepatoma cells at G2/M phase: involvement of ATM activation and upregulation of $p21^{waf1/cip1}$ and Wee1. Twelfth Symposium on Recent Advances in Cellular and Molecular Biology (Renting).
25. Su S.J., Wu K.W., Cheng H.L., Hsu H.W., Hu Y.C. and **Chang K.L.*** (2004) Preventive effects of the soy isoflavones, genistein, on bone resorption exceeds bone formation in osteoporosis. The Nineteenth Joint Annual Conference of Biomedical Sciences (Taipei).
26. **Chang K.L.**, Tseng C.Y., Hu Y.C., Cheng H.L., and Su S.J. (2004) The study of the apoptosis mechanism of soy isoflavones in human osteosarcoma. The Nineteenth Joint Annual Conference of Biomedical Sciences (Taipei).
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drug on cancer cell line. The Nineteenth Joint Annual Conference of Biomedical Sciences (Taipei).

28. Lee Y.C., Su S.J. and **Chang K.L.*** (2004) The effects of selenium on leukemia cells. The Nineteenth Joint Annual Conference of Biomedical Sciences (Taipei).
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30. Su S.J., Cheng H.L. and **Chang K.L.*** (2003) Synergistic growth inhibition, angiogenic factors regulation and apoptosis induction of human prostate cancer cells by β1-adrenoceptor antagonist combined with soy isoflavones. The Eightieth Joint Annual Conference of Biomedical Sciences (Taipei).
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33. Su S.H., Lin S.R. and **Chang K.L.*** (2003) Cardiotoxin-III regulates the expression of cytokines, surface molecules, and apoptosis in human circulating mononuclear cells. The Eightieth Joint Annual Conference of Biomedical Sciences (Taipei).