

Curriculum Vitae



Chen-Chen Lee (李珍珍), Ph.D.

Present

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中國醫藥大學
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Education

1999.09-2003.07	Ph.D	博士
	College of Medicine, Graduate Institute of Toxicology National Taiwan University	國立台灣大學 醫學院 毒理學研究所
1997.09-1999.07	Master of Science	碩士
	College of Medicine Graduate Institute of Toxicology National Taiwan University	國立台灣大學 醫學院 毒理學研究所
1993.09-1997.07	Bachelor of Science	學士
	Food and Nutrition Department, Fu Jen Catholic University	輔仁大學 食品營養學系

Employment experience

2003.10-2007.8	Postdoc fellowship	博士後研究
	Graduate Institute of Clinical Medicine College of Medicine National Taiwan University	台灣大學醫學院 臨床醫學研究所

2007.9~2011.1	Assistant professor School of Medicine, Department of Microbiology and Immunology China Medical University	助理教授 中國醫藥大學 醫學系 微生物與免疫學科
2013.4~2013.10	Visiting Scholar Pulmonary and Critical Care Medicine Internal Medicine College of Medicine University of California, Davis	訪問學者 加州大學戴維斯分校 醫學院 胸腔暨重症加護醫學中心

Research interests

Therapeutic effects and mechanisms in airway inflammatory diseases

Cellular and Molecular Immunology

Immunotoxicology

Respiratory System toxicology

Gene Therapy

Research Grant

1. 探討奈米氧化鋅對於呼吸道宿主免疫防禦系統的作用與機制。
(2013.08.01~2014.07.31) (國科會 NT 1,005,000)
2. 探討 High mobility group box 1 在過敏原誘導之慢性呼吸道發炎與重塑的機制與治療角色。
(2012.08.01~2012.07.31) (國科會 NT 876,000)
3. 探討 high mobility group box 1 在重度氣喘小鼠模式中對呼吸道發炎及重塑之作用與機制。
(2011.08.01~2012.07.31) (國科會 NT 1,120,000)
4. 蘇木素及紫草素對於氣喘治療的評估及其作用機制之探討。
(2008.08.01~2011.07.31) (國科會新制多年期計畫 NT 3,476,000)
5. 市售小柴胡湯與防風通聖散對於間質性肺炎之作用及機制之探討。
(2008.10.15~2009.12.31) (行政院衛生署中醫藥委員會 NT 900,000)
6. 研究 Foxp-3 基因對具調節性 T 細胞活性的腫瘤細胞其腫瘤生成活性的影響。(2008.5.1~2009.4.31)(中國醫藥大學與台灣大學合作計畫)(NT 530,000)
7. 研發神經生長因子的抑制劑來治療過敏性氣喘。(2010.1.1~2011.12.31) (中國醫藥大學與台灣大學合作計畫) (NT 1,130,000)

Award

95 年度 NHRI Postdoctoral Fellowship Award (國家衛生研究院博士後研究獎助)

2. 學術性代表著作

[A] 期刊論文 (*通訊作者)

1. **Chen-Chen Lee***, Yu-Ting Lai, Hao-Teng Chang, Jiunn-Wang Liao, Woei-Cherng Shyu, Chi-Yuan Li, Chien-Neng Wang. Inhibition of high mobility group box 1 in lung reduced airway inflammation and remodeling in a mouse model of chronic asthma. *Biochemical Pharmacology* 2013; 86, 940-949. (IF=4.576; Ranking / Category :29/261, PHARMACOLOGY & PHARMACY) 本人為第一作者、通訊作者
2. Yerra Koteswara Rao, Yu-Ching Chenb, Shih-Hua Fang, Chih-Ho Lai, Madamanchi Geethangili, **Chen-Chen Lee***, Yew-Min Tzeng. Ovatodiolide inhibits the maturation of allergen-induced bone marrow-derived dendritic cells and induction of Th2 cell differentiation. *Int Immunopharmacol.* 2013; 17(3), 617-624. (IF=2.417; Ranking / Category :113/261, PHARMACOLOGY & PHARMACY) 本人為通訊作者
3. **Chen-Chen Lee***, Chien-Neng Wang, Jaw-Jou Kang, Jiunn-Wang Liao, Bor-Luen Chiang, Hui-Chen Chen. Anti-Allergic Asthma Properties of Brazilin through Inhibition of TH2 Responses in Vitro and in Vivo. *Journal of Agriculture and Food Chemistry* 2012; 60(37):9405-14. (IF=2.906; Ranking / Category :1/57, AGRICULTURE, MULTIDISCIPLINARY) 本人為第一作者、通訊作者
4. **Chen-Chen Lee**, Shih-Hsuan Huang, Ya-Ting Yang, Yu-Wen Cheng, Ching-Hao Li, Jaw-Jou Kang. Motorcycle Exhaust Particles Up-Regulate Expression of Vascular Adhesion Molecule-1 and Intercellular Adhesion Molecule-1 in Human Umbilical Vein Endothelial Cells. *Toxicology in Vitro* , 2012; 26 : 552-560.(IF=2.650, Ranking / Category : 34/85, Toxicology) 本人為第

一作者

5. **Chen-Chen Lee***, Jaw-Jou Kang, Bor-Luen Chiang, Chien-Neng Wang, Yu-Wen Cheng. Shikonin inhibited mitogen-activated IL-4 and IL-5 production on EL-4 cells through downregulation of GATA-3 and c-Maf induction. *Life Sciences*, 2011; 89:364-370. (IF=2.555; Ranking / Category : 107/261, PHARMACOLOGY & PHARMACY). 本人為第一作者、通訊作者.
6. **Chen-Chen Lee**, H. Ho, K.T. Lee, S. T. Jeng and Bor-Luen Chiang*. Construction of a *Der p 2*-Transgenic Plant for the Alleviation of Airway Inflammation. *Cellular & Molecular Immunology* 2011; 8:404-411 (IF=3.419; Ranking / Category : 51/137, Immunology). 本人為第一作者
7. **Chen-Chen Lee**, Hsin-Ying Huang and Bor-Luen Chiang*. Lentiviral mediated IL-4 and IL-13 RNAi Decreases Allergic Airway Inflammation and Hyperresponsiveness. *Human Gene Therapy* 2011; 22, 577-86 (IF=4.019; Ranking / Category : 51/137, Medicine, Research & Experimental). 本人為第一作者
8. **Chen-Chen Lee***, Chien-Neng Wang, Yu-Ting Lai, Jaw-Jou Kang, Jiunn-Wang Liao, Bor-Luen Chiang, Hui-Chen Chen, Yu-Wen Cheng. Shikonin Inhibited Bone Marrow-Derived Dendritic Cell Maturation and Suppressed Allergic Airway Inflammation in a Murine Model of Asthma. *British Journal of Pharmacology* 2010; 161, 1496-1511(IF=5.067; Ranking / Category : 21/261, PHARMACOLOGY & PHARMACY). 本人為第一作者、通訊作者
9. **Chen-Chen Lee**, Hsin-Ying Huang and Bor-Luen Chiang*. Lentiviral-mediated GATA-3 RNAi Decreases Allergic Airway Inflammation and Hyperresponsiveness. *Molecular Therapy* 2008; 16, 60–65. (IF=6.873; Ranking / Category :10/112, MEDICINE, RESEARCH & EXPERIMENTAL). 本人為第一作者

10. **Chen-Chen Lee** and Bor-Luen Chiang*. RNA Interference: New Therapeutics in Allergic Diseases. Current Gene Therapy 2008; 8, 236-246 (IF=5.318; Ranking / Category:21/161, MEDICINE, RESEARCH & EXPERIMENTAL)
本人為第一作者
11. **Chen-Chen Lee**, Yu-Wen Cheng, Bor-Luen Chiang, Yih-Loong Lai , Jaw-Jou Kang*. Motorcycle Exhaust Particles Augment Antigen-Induced Airway Inflammation in BALB/c Mice. Journal of Toxicology and Environmental Health, Part A 2008; 71: 6, 405-412 (IF=1.733; Ranking / Category :108/210, Experimental Science). 本人為第一作者
12. JH Chen, PH Huang, **Chen-Chen Lee**, PY Chen, HC Chen (). A bovine whey protein extract can induce the generation of regulatory T cells and shows potential to alleviate asthma symptoms in a murine asthma model. British J Nutrition 2012; 15:1-8. (IF=3.302; Ranking / Category:18/76, NUTRITION & DIETETICS).
13. Kuan-Hua Chu, **Chen-Chen Lee**, Shao-Chi Hsin, Bao-Chang Cai, Jin-Hong Wang, Bor-Luen Chiang*. Arsenic trioxide alleviates airway hyperresponsiveness and eosinophilia in a murine model of asthma. Cellular & Molecular Immunology 2010; 7, 375-380 (IF=3.419; Ranking / Category : 51/137, Immunology).
14. Hsin-Ying Huang, **Chen-Chen Lee**, and Bor-Luen Chiang*. Short hairpin RNAs against Eotaxin or Interleukin-5 Decrease Airway Eosinophilia and Hyper-responsiveness in a Murine Model of Asthma. Journal of Gene Medicine 2009; 11, 112-118 (IF=2.163; Ranking / Category : 78/160, Biotechnology & Applied Microbiology).
15. Hsin-Ying Huang, **Chen-Chen Lee**, and Bor-Luen Chiang*. Small Interfering RNA Against Interleukin-5 Decreases Airway Eosinophilia and

Hyper-responsiveness. *Gene Therapy* 2008; 15, 660-667 (IF=4.321; Ranking / Category : 25/121, Medicine, Research & Experimental).

16. Jaw-Jou Kang, Po-Jung Lee, Yen-Ju Chen, **Chen-Chen Lee**, Chin-How Li, Hui-Wen Cheng, Yu-Wen Cheng*. Naphthazarin and methylnaphthazarin cause vascular dysfunction by impairment of endothelium-derived nitric oxide and increased superoxide anion generation. *Toxicology in vitro*.2006; 20(1) : 43-51 (IF=2.650; Ranking / Category : 34/85, Toxicology).

[B] 專書著作

1. 微生物學實驗 (2008)。方世華、吳禮宇、李珍珍、洪千惠、項千芸、劉昭君、賴志河、鐘景光編著。新文京開發出版有限公司。
2. 現代生物技術 (2007)。李珍珍、林應如、洪千惠、湯智昕、賴志河、方世華編著。九州圖書文物有限公司。

[C] 學位著作

1. 台灣大學毒理學研究所博士論文(九十一學年度)機車廢氣懸浮微粒萃取物對呼吸道致敏之作用及機制之探討 (The study of motorcycle exhaust particles-induced airway (allergic) reaction hypersensitivity)
2. 台灣大學毒理學研究所碩士論文(八十七學年度)多環芳香烴引起細胞外鈣離子內流及一氧化氮生成作用 (Polycyclic aromatic hydrocarbons induce extracellular calcium influx and nitric oxide formation in ECV 304 cells).

[D] 會議論文

1. 梁佳羚、王建能、李珍珍* 蘇木素抑制氣喘小鼠呼吸道發炎及呼吸道過度反應之作用及機制之探討，2010 中國醫藥大學精進學習群成果發表會，台中，2010.09/2 ~ 2010.09/3
2. 鄭婷、王建能、蔡宜儒、李珍珍* 蘇木素及紫草素抑制人類肺纖維母細胞增生及轉移的作用及機制之探討，2010 中國醫藥大學精進學習群成果發表會，台中，2010.09/2 ~ 2010.09/3

3. 李珍珍*、王建能、賴郁婷、康熙洲、廖俊旺、江伯倫、陳惠珍 Shikonin Inhibited Maturation of Bone Marrow-Derived Dendritic Cells and Suppresses Allergic Airway Inflammation in a Murine Model of Asthma.，第 14 屆國際免疫學會，日本神戶，2010.08/22 ~ 2010.08/27
4. 王建能、李珍珍* Shikonin Inhibited Mitogens Induced Th2 Cytokines Expression in Vitro and Airway Inflammation and Hyperresponsiveness in a Murine Model of Asthma，第 25 屆生物醫學聯合學術年會，國防醫學院，2010.03/27 ~ 2010.03/28
5. 賴郁婷、李珍珍* Shikonin Inhibited Bone Marrow-Derived Dendritic Cell Maturation through OX-40L.，第 25 屆生物醫學聯合學術年會，國防醫學院，2010.03/27 ~ 2010.03/28
6. 陳光渝、李珍珍* 市售小柴胡湯與防風通聖散對於間質性肺炎之作用與機制之探討，2009 中藥產業法規宣導暨中藥用藥安全環境計畫成果發表會，弘光科技大學，2009.10/24 ~ 2009.10/24
7. 李珍珍*、王建能 Brazilin Inhibited Mitogens Induced Th2 Cytokines Expression in Vitro and Airway Inflammation and Hyperresponsiveness in a Murine Model of Asthma，第 2 屆歐洲免疫學會，德國柏林，2009.09/13 ~ 2009.09/16
8. 李珍珍、黃心穎、江伯倫 Lentiviral mediated IL-4 and IL-13 RNAi decrease airway inflammation and hyperresponsiveness，Federation of Immunology Societies of Asia-Oceania 2008，台大醫院國際會議中心，2008.10/17 ~ 2008.10/20

3. 研究計畫

(一) 近五年之主要研究成果大致分成三個部分

(1) **環境污染物對於呼吸道致敏相關作用及機制**:近幾十年來，台灣兒童罹患呼吸道過敏性疾病發生率明顯增高，此原因與環境的污染有密切相關，為了瞭解空氣污染物對於呼吸道過敏性發炎的影響。我們研究台灣常見空氣污染物-機車廢氣懸浮微粒萃取物對於呼吸道過敏性發炎的作用與機制。研究結果顯示機車廢氣懸浮微粒萃取物會引起小鼠產生呼吸道發炎及 airway hyperresponsiveness 的現象並會增強過敏原引起氣喘相關症狀。在 *in vitro* 實驗中也發現會引起呼吸道上皮細胞增加 IL-8 的分泌，及增加血管內皮細胞吸引發炎細胞之黏附因子的表現。因此，機車廢氣懸浮微粒萃取物為空氣污染物中重要誘發呼吸道過敏性發炎反應的物質。

1. **Chen-Chen Lee**, Shih-Hsuan Huang, Ya-Ting Yang, Yu-Wen Cheng, Ching-Hao Li, Jaw-Jou Kang. Motorcycle Exhaust Particles Up-Regulate Expression of Vascular Adhesion Molecule-1 and Intercellular Adhesion Molecule-1 in Human Umbilical Vein Endothelial Cells. *Toxicology in Vitro* 26(4):552-60; 2012.
2. **Chen-Chen Lee**, Yu-Wen Cheng, Jiunn-Wang Liao, Bor-Luen Chiang, Yih-Loong Lai, Jaw-Jou Kang. Motorcycle Exhaust Particles Augment Antigen-Induced Airway Inflammation in BALB/c mice. *J Toxicol. Environ. Health*. 71:405-412; 2008.
3. **Chen-Chen Lee**, Yu-Wen Cheng, and Jaw Jou Kang. Motorcycle exhaust particles induce IL-8 production through NF- κ B activation in human airway epithelial cells. *J Toxicol. Environ. Health* 28:1537-1555; 2005.
4. **Chen-Chen Lee**, Jiunn-Wang Liao, and Jaw-Jou Kang. Motorcycle Exhaust Particles Induce Airway Inflammation and Airway Hyperresponsiveness in BALB/C Mice. *Toxicological Sciences* 79: 326-334; 2004.

(2) **探討呼吸道過敏性疾病的致病機轉與治療策略**:慢性呼吸道過敏性疾病為多基因之疾病，成因複雜，尤其在慢性重度氣喘患者，目前的藥物並無法控制，因此我們想藉由探討呼吸道過敏性疾病的致病機轉與治療的策略，提供治療慢性呼吸道過敏性疾病新方向。包括探討晚期發炎因子-high mobility group box 1 在慢性重度氣喘的致病機制與治療潛力。氣喘的基因治療方法主要探討利用氣喘相關基因 RNAi 評估對於氣喘治療的效果。

1. **Chen-Chen Lee***, Yu-Ting Lai, Hao-Teng Chang, Jiunn-Wang Liao, Woei-Cherng Shyu, Chi-Yuan Li, Chien-Neng Wang. Inhibition of high-mobility group box 1 in lung reduced airway inflammation and remodeling in a mouse

- model of chronic asthma. *Biochemical Pharmacology* 86: 940-949; 2013.
2. **Chen-Chen Lee**, H Ho, KT Lee, ST Jeng and Bor-Luen Chiang. Construction of a Der p2-transgenic plant for the alleviation of airway inflammation. *Cellular & Molecular Immunology* 8:404-411; 2011.
 3. **Chen-Chen Lee**, Hsin-Ying Huang, and Bor-Luen Chiang. Lentiviral Mediated IL-4 and IL-13 RNAi Decreases Airway Inflammation and Hyperresponsiveness. *Human Gene Therapy* 22:577–586; 2011.
 4. Hsin-Ying Huang, **Chen-Chen Lee**, and Bor-Luen Chiang. Short hairpin RNAs against eotaxin or interleukin-5 decrease airway eosinophilia and hyper-responsiveness in a murine model of asthma. *J. Gene Med.* 11:112-118; 2009.
 5. **Chen-Chen Lee**, Hsin-Ying Huang, and Bor-Luen Chiang. Lentiviral Mediated GATA-3 RNAi Decreases Allergic Airway Inflammation and Hyperresponsiveness. *Molecular therapy* 16:60-65; 2008.
 6. **Chen-Chen Lee** and Bor-Luen Chiang. RNA Interference: New Therapeutics in Allergic Diseases. *Current Gene Therapy* 8, 236-246; 2008.
 7. Hsin-Ying Huang, **Chen-Chen Lee**, and Bor-Luen Chiang. Small Interfering RNA Against Interleukin-5 Decreases Airway Eosinophilia and Hyperresponsiveness. *Gene therapy* 15:660-667; 2008.
- (3) 建立細胞與動物研究平台，研究化合物與食品治療氣喘的機制與作用: 中草藥已為國人生活中必備之藥用與食用的必需品，其安全性與接受度高，而研究中草藥之萃取的化合物，可確定其藥效成份，並可開發新的藥物，節省時間，是開發新藥非常重要的方向。我們透過建立誘發過敏反應起始細胞樹突狀細胞與第二型 T 輔助細胞之細胞平台篩選治療氣喘藥物並利用動物研究平台進行藥效測試，已有不錯的成果。
1. Yerra Koteswara Rao, Yu-Ching Chen, Shih-Hua Fang, Chih-Ho Lai, Madamanchi Geethangili, **Chen-Chen Lee***, Yew-Min Tzeng. Ovatodiolide inhibits the maturation of allergen-induced bone marrow-derived dendritic cells and induction of Th2 cell differentiation. *International Immunopharmacology* 17:617-624; 2013.
 2. 中華民國專利 I 375671，用於抑制第二型 T 輔助細胞之細胞激素之生成及/或抑制趨化激素之生成之含蘇木素之醫藥組合物及其應用。專利發明人：李珍珍、王建能。專利權人：中國醫藥大學。專利權期限：2012.11.1~2030.2.28。
 3. **Chen-Chen Lee***, Chien-Neng Wang, Jaw-Jou Kang, Jiunn-Wang Liao, Bor-Luen Chiang, Hui-Chen Chen. Anti-Allergic Asthma Properties of Brazilin

through Inhibition of TH2 Responses in Vitro and in Vivo. *Journal of Agriculture and Food Chemistry* 19;60(37):9405-14; 2012.

4. JH Chen, PH Huang, **Chen-Chen Lee**, PY Chen, HC Chen. A bovine whey protein extract can induce the generation of regulatory T cells and shows potential to alleviate asthma symptoms in a murine asthma model. *British J Nutrition* 15:1-8; 2012.
5. **Chen-Chen Lee***, Jaw-Jou Kang, Bor-Luen Chiang, Chien-Neng Wang, Yu-Wen Cheng. Shikonin inhibited mitogen-activated IL-4 and IL-5 production on EL-4 cells through downregulation of GATA-3 and c-Maf induction. *Life Sciences* 89:364-370; 2011.
6. **Chen-Chen Lee***, Chien-Neng Wang, Jaw-Jou Kang, Jiunn-Wang Liao, Bor-Luen Chiang, Hui-Chen Chen, Yu-Wen Cheng. Shikonin Inhibited Bone Marrow-Derived Dendritic Cell Maturation and Suppressed Allergic Airway Inflammation and Hypersensitiveness in a murine model of asthma. *British Journal of Pharmacology* 161(7):1496-1511; 2010.
7. Kuan-Hua Chu, **Chen-Chen Lee**, Shao-Chi Hsin, Bao-Chang Cai, Jin-Hong Wang, Bor-Luen Chiang. Arsenic trioxide alleviates airway hyperresponsiveness and eosinophilia in a murine model of asthma. *Cellular & Molecular Immunology* 7, 375-380; 2010.