

## 李婷



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### 教研領域

教學科目：藥理學，中藥藥理學，中藥藥理學實驗，微生物與免疫學，藥理學實驗方法

研究方向：中藥藥理學；免疫藥理學

**簡介：**李婷博士 2002 年在安徽中醫藥大學中醫臨床專業取得醫學學士學位，並於 2005 年在廣州中醫藥大學獲得免疫藥理學碩士學位，隨後赴香港浸會大學進行研究工作並攻讀博士學位，於 2010 年在香港浸會大學中醫藥學院取得博士學位並進行博士後研究。2011 年 9 月李博士獲聘澳門科技大學澳門藥物及健康應用研究院、中藥品質研究國家重點實驗室(澳門科技大學)助理教授，後被晉升為副教授。李博士主要從事中藥的免疫抑制及免疫調節作用的研究工作。專注於炎症性疾病及自身免疫性疾病的發病機制，以及中藥幹預等研究。李博士亦為世界中醫藥學會聯合會中醫藥免疫專業委員會第二屆理事會常務理事，中國免疫學會中醫藥免疫學分會理事。已在 Pharmacol Res., Free Radic Biol Med, Science 以及 Nature Medicine 等雜誌發表 SCI 學術論文多篇。獲得美國專利授權 2 項、澳大利亞專利授權 7 項。獲教育部高等學校科學研究優秀成果獎自然科學獎一等獎 1 項，澳門科學技術獎一等獎 1 項，澳門科技大學中銀學術研究獎 1 項。

### 學歷

2010.3 香港浸會大學哲學博士學位

2005.7 廣州中醫藥大學免疫藥理學碩士學位

2001.7 安徽中醫藥大學醫學士學位

**工作履歷：**

2016.7-今	澳門科技大學藥健院，副教授
2011.9-2016.6	澳門科技大學藥健院，助理教授
2010.4-2011.8	香港浸會大學中醫藥學院博士後研究員
2005.9-2006.12	香港浸會大學中醫藥學院，研究助理

**Granted patents:**

- 1) Novel binding site of IKK-beta. Australian Innovation Patent No. 2013101130; Granted on 5 Sept 2013.
- 2) Development of a new formula overcoming thymus atrophy with concomitantly enhancement of anti-inflammatory effect of dexamethasone, Australian Innovation Patent No. 2014100379; Granted on 1 May 2014.
- 3) Development of a new formula overcoming thymus atrophy with concomitantly enhancement of anti-inflammatory effect of dexamethasone, US Utility Patent No. 9,018,196; Granted on 28 Apr 2015.
- 4) Isoliquiritigenin suppresses human T lymphocyte activation via targeting on cysteine 46 of I $\kappa$ B $\alpha$  Kinase. Australian Innovation Patent No. 2015100662; Granted on 28 May 2015.
- 5) Limonoids for treating autoimmune diseases field. Australian Innovation Patent No. 2017100026; Granted on 9 Jan 2017.
- 6) Method to treat anaphylactoid reaction; Australian Innovation Patent No. 2017100973; Granted on 17 July 2017.
- 7) Method of treating rheumatoid arthritis. Australian Innovation Patent No. 2017101103; Granted on 14 August 2017.
- 8) Method of treating an autoimmune disease. Australian Innovation Patent No. 2017101742; Granted on 12 Dec 2017.
- 9) Transgenic model for delay-type hypersensitivity (DTH) and use thereof, US Utility Patent No 9,955,676; Granted on 2 May 2018.

## **Publications:**

- 1) Yang F, Su X, Pi J, Liao K, Zhou H, Sun Y, Liu J, Guo X, Jiang J, Jin H, Cai J, **Li T**<sup>#</sup>, Liu L<sup>#</sup>, Atomic force microscopy technique used for assessment of the anti-arthritis effect of licochalcone A *via* suppressing NF- $\kappa$ B activation, *Biomedicine & Pharmacotherapy*. 2018 Jul;103:1592-1601. (<sup>#</sup>co-corresponding author).
- 2) Pan H, Guo R, Zhu J, Wang Q, Ju Y, Xie Y, Zheng Y, Wang Z, **Li T**, Liu Z, Lu L, Li F, Tong B, Xiao L, Xu X, Li R, Yuan Z, Yang H, Wang J, Kristiansen K, Jia H, Liu L. A gene catalogue of the Sprague-Dawley rat gut metagenome. *Gigascience*. 2018 May 1;7(5). doi: .1093/gigascience/giy055.
- 3) Su X\*, **Li T**<sup>\*</sup>, Liu Z, Huang Q, Liao K, Ren R, Lu L, Qi X, Wang M, Chen J, Zhou H, Leung EL, Pan H, Liu J, Wang H, Huang L, Liu L. Licochalcone A activates Keap1-Nrf2 signaling to suppresses arthritis via phosphorylation of p62 at serine 349. *Free Radic Biol Med*. 2017 Dec 9. pii: S0891-5849(17)31236-4. (<sup>\*</sup>co-first author).
- 4) Jin H, Pi J, Zhao Y, Jiang J, **Li T**, Zeng X, Yang P, Evans CE, Cai J. EGFR-targeting PLGA-PEG nanoparticles as a curcumin delivery system for breast cancer therapy. *Nanoscale*. 2017 Nov 2;9(42):16365-16374.
- 5) Zhou H, Liu JX, Luo JF, Cheng CS, Leung EL, Li Y, Su XH, Liu ZQ, Chen TB, Duan FG, Dong Y, Zuo YH, Li C, Lio CK, **Li T**, Luo P, Xie Y, Yao XJ, Wang PX, Liu L. Suppressing mPGES-1 expression by sinomenine ameliorates inflammation and arthritis. *Biochem Pharmacol*. 2017 Oct 15;142:133-144.
- 6) Huang L.F., Dong Y., Wu J. L., Wang P.X., Zhou H., **Li T**<sup>#</sup> and Liu L<sup>#</sup>, Sinomenine-induced histamine release-like anaphylactoid reactions are blocked by tranilast via inhibiting NF- $\kappa$ B signaling. *Pharmacol Res*. 2017 Nov;125(Pt B):150-160. (<sup>#</sup>co-corresponding author).
- 7) Chen J.Y., Zhu G.Y., Su X.H., Wang R., Liu J., **Li T**<sup>#</sup> and Liu L<sup>#</sup>, 7-Deceaylgedunin suppresses proliferation of macrophages and inflammation through activation of Keap1/Nrf2/HO-1 signaling. *Oncotarget*. 2017 Jul 5;8(33):55051-55063. (<sup>#</sup>co-corresponding author).
- 8) Chen Y. N., Li H. F., Li M. F., Niu S., B., Wang J. X., Shao H., W., **Li T**<sup>#</sup>, **Wang H**<sup>#</sup>. Salvia miltiorrhiza polysaccharide activates T Lymphocytes of cancer patients through activation of TLRs mediated -MAPK and -NF- $\kappa$ B signaling pathways. *Journal of Ethnopharmacology*. 2017 Feb 20. pii: S0378-8741(16)31471-4. (<sup>#</sup>co-corresponding author)
- 9) Pan H, Li R, **Li T**, Wang J, Liu L, Whether Probiotic Supplementation Benefits Rheumatoid Arthritis Patients: A Systematic Review and Meta-Analysis. *Engineering*. 2017 February, 3 (1):115-121.
- 10) Su X, Huang Q, Chen J, Wang M, Pan H, Wang R, Zhou H, Zhou Z, Liu J, Yang F, **Li T**<sup>#</sup>, **Liu L**<sup>#</sup> Calycosin suppresses expression of pro-inflammatory cytokines via the activation of p62/Nrf2-linked heme oxygenase 1 in rheumatoid arthritis synovial fibroblasts. *Pharmacol Res*. 2016 Nov;113 (Pt A):695-704. (<sup>#</sup>co-corresponding author)
- 11) Yan FG, Yang F, Wang R, Yao XJ, Bai LP, Zeng X, Huang JJ, Wong VK, Lam CW, Zhou H, Su XH, Liu J, **Li T**<sup>#</sup>, Liu L<sup>#</sup> Isoliquiritigenin suppresses human T lymphocyte activation via covalently

binding cysteine 46 of IκB Kinase. *Oncotarget*. 2016 Sep 10. doi: 10.18632 (#co-corresponding author).

- 12) Fan DS, Zhu GY, Li T, Jiang ZH, Bai LP. Dimacrolide Sesquiterpene Pyridine Alkaloids from the Stems of *Tripterygium regelii*. *Molecules*. 2016, 21(9), 1146.
- 13) Wang R, Pi J, Su X, Liu J, Zeng X, Wong I, Huang L, Zhou H, Cai J, **Li T<sup>#</sup>**, Liu L<sup>#</sup>. Dihydromyricetin suppresses inflammatory responses in vitro and in vivo through inhibition of IKKβ activity in macrophages. *Scanning*. 2016 Aug 3. (#co-corresponding author). [SCI impact factor 2015: 1.3, ranked 29st in 56 journals (51.8%) of category INSTRUMENTS & INSTRUMENTATION]
- 14) Jin H, Pi J, Yang F, Jiang J, Wang X, Bai H, Shao M, Huang L, Zhu H Yang P, Li L, **Li T**, Cai J1, Chen ZW. Folate-Chitosan Nanoparticles Loaded with Ursolic Acid Confer Anti-Breast Cancer Activities in vitro and in vivo. *Sci Rep*. 2016 Jul 29;6:30782.
- 15) Huang LF, Pi J, Wu JL, Zhou H, Cai JY, **Li T<sup>#</sup>**, Liu L<sup>#</sup>, A rapid and sensitive assay based on particle analysis for cell degranulation detection in basophils and mast cells. *Pharmacol Res*, 2016 Jun 21;111:374-383. (#co-corresponding author). [SCI impact factor 2015: 4.816, ranked 27st in 253 journals (10.7%) of category PHARMACOLOGY & PHARMACY]
- 16) Parhira S, Zhu GY, Li T, Liu L, Bai LP, Jiang ZH. Inhibition of IKK-β by epidioxysterols from the flowers of *Calotropis gigantea* (Niu jiao gua). *Chin Med*. 2016 Mar 2;11:9.
- 17) Li T\*, Wong VK\*, Jiang ZH, Jiang SP, Liu Y, Wang TY, Yao XJ, Su XH, Yan FG, Liu J, Leung EL, Yi XQ, Wong YF, Zhou H, Liu L. Mutation of cysteine 46 in IKK-beta increases inflammatory responses. *Oncotarget*. 2015 Oct 13;6(31):31805-19. (\*co-first author).
- 18) Zhang X, Zhang D, Jia H, Feng Q, Wang D, Liang D, Wu X, Li J, Tang L, Li Y, Lan Z, Chen B, Li Y, Zhong H, Xie H, Jie Z, Chen W, Tang S, Xu X, Wang X, Cai X, Liu S, Xia Y, Li J, Qiao X, Al-Aama JY, Chen H, Wang L, Wu QJ, Zhang F, Zheng W, Li Y, Zhang M, Luo G, Xue W, Xiao L, Li J, Chen W, Xu X, Yin Y, Yang H, Wang J, Kristiansen K, Liu L, Li T, Huang Q, Li Y, Wang J. The oral and gut microbiomes are perturbed in rheumatoid arthritis and partly normalized after treatment. *Nat Med*. 2015 Aug;21(8):895-905.
- 19) Huang L, **Li T**, Zhou H, Qiu P, Wu J, Liu L. Sinomenine potentiates degranulation of RBL-2H3 basophils via up-regulation of phospholipase A2 phosphorylation by Annexin A1 cleavage and ERK phosphorylation without influencing on calcium mobilization. *Int Immunopharmacol*. 2015 Oct;28(2):945-51.
- 20) Wang R, Zhang CY, Bai LP, Pan HD, Shu LM, Kong AN, Leung EL, Liu L<sup>#</sup>, **Li T<sup>#</sup>**. Flavonoids derived from liquorice suppress murine macrophage activation by up-regulating heme oxygenase-1 independent of Nrf2 activation. *Int Immunopharmacol*. 2015 Oct;28(2):917-24. (#co-corresponding author).
- 21) Leung EL, Wong VK, Jiang ZH, **Li T**, Liu L. Integrated network-based medicine: the role of traditional Chinese medicine in developing a new generation of medicine. *Science*. 2014 Dec, 346 (6216 Suppl), S16-S18.

- 22) Pi J, **Li T**, Liu J, Su X, Wang R, Yang F, Bai H, Jin H, Cai J Detection of lipopolysaccharide induced inflammatory responses in RAW264.7 macrophages using atomic force microscope. *Micron*. 2014 Oct;65:1-9.
- 23) Wong VK\*, **Li T**\*, Law BY, Ma ED, Yip NC, Michelangeli F, Law CK, Zhang MM, Lam KY, Chan PL and Liu L. Saikosaponin-d, a novel SERCA inhibitor induces autophagic cell death in apoptosis-defective cells. 2013 Jul 11;4:e720. (\*co-first author).
- 24) **Li T**, Yan F, Wang R, Zhou H, Liu L. Shikonin Suppresses Human T Lymphocyte Activation through Inhibition of IKK  $\beta$  Activity and JNK Phosphorylation. *Evid Based Complement Alternat Med*.2013:379536.
- 25) Ding R, Tang J, Gao H, **Li T**, Zhou H, Liu L, Yao XS. New methymycin derivatives of *Streptomyces venezuelae* ATCC 15439 and their inhibitory effects on human T cell proliferation mediated by PMA/ionomycin. *Arch Pharm Res*. 2012 Sep;35(9):1567-72.[SCI impact factor 2011: 1.592, ranked 38th in 59 journals (64.4%) of category MEDICINAL CHEMISTRY]
- 26) Zhu L, Lu JG, **Li T**, Zhu GY, Han QB, Hsiao WL, Liu L, Jiang ZH. Immunosuppressive decalin derivatives from red yeast rice. *J Nat Prod*. 2012 Apr 27;75(4):567-71. [SCI impact factor 2012: 3.285, ranked 27st in 190 journals (14.87%) of category PLANT SCIENCES]
- 27) Yi XQ, **Li T**, Wang JR, Wong VK, Luo P, Wong IY, Jiang ZH, Liu L, Zhou H. Total ginsenosides increase coronary perfusion flow in isolated rat hearts through activation of PI3K/Akt-eNOS signaling. *Phytomedicine*. 2010 Nov;17(13):1006-15.
- 28) Wong VK, Cheung SS, **Li T**, Jiang ZH, Wang JR, Dong H, Yi XQ, Zhou H, Liu L. Asian ginseng extract inhibits in vitro and in vivo growth of mouse lewis lung carcinoma via modulation of ERK-p53 and NF- $\kappa$ B signaling. *J Cell Biochem*. 2010 Nov 1;111(4):899-910.
- 29) **Li T**, Wong VK, Yi XQ, Wong YF, Zhou H, Liu L. Matrine induces cell anergy in human Jurkat T cells through modulation of mitogen-activated protein kinases and nuclear factor of activated T-cells signaling with concomitant up-regulation of anergy-associated genes expression. *Biol Pharm Bull*. 2010;33(1):40-6.
- 30) **Li T**, Wong VK, Yi XQ, Wong YF, Zhou H, Liu L. Pseudolaric acid B suppresses T lymphocyte activation through inhibition of NF- $\kappa$ B signaling pathway and p38 phosphorylation. *J Cell Biochem*. 2009 Sep 1;108(1):87-95.
- 31) Wong VK, Zhou H, Cheung SS, **Li T**, Liu L. Mechanistic study of saikosaponin-d (Ssd) on suppression of murine T lymphocyte activation. *J Cell Biochem*. 2009 May 15;107(2):303-15.

### 學術機構及社會任職

世界中醫藥學會聯合會中藥免疫專業委員會（常務理事）

中國免疫學會中醫藥免疫學分會（理事）

中國中西結合學會臨床藥理與毒理專業委員會（理事）

### **學術雜誌審稿人**

- 1) Pharmacological Research 2016-
- 2) Phytomedicine 2015-
- 3) Frontier in Pharmacology 2017-
- 4) Biomedicine & Pharmacotherapy 2017-

### **獎項**

教育部高等學校科學研究優秀成果獎自然科學獎一等獎 (2014)

澳門科學技術獎一等獎 (2016)

澳門科技大學中銀學術研究獎 (2017)