

Curriculum Vitae

Name: Chunling Wan, Ph.D.

Gender: Female

Birth Date: 1974.04

Profession: Biochemistry and Molecular Biology

Position Title: Professor, Doctoral Supervisor

Research: Molecular pathogenesis and diagnosis of schizophrenia

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Research Interests

- Molecular diagnosis of schizophrenia based on niacin skin reaction
- Molecular diagnosis of schizophrenia based on metabolic abnormalities
- Study on the mechanism of redox imbalance in schizophrenia

Education

2000/9-2003/7,	Institute of Genetics and Development Biology, Chinese Academy of Sciences	Ph.D.
1997/9-2000/7,	Nanjing Normal University	M.S.
1991/9-1995/7,	Nanjing Normal University	B.S.

Work Experience

2014/1-present,	Bio-X Institutes, Shanghai Jiao Tong University	Professor
2008/1-2013/12,	Bio-X Institutes, Shanghai Jiao Tong University	Associate Professor
2010/5-2011/5,	Department of Biomedical Informatics, Vanderbilt University Medical Center	Postdoctoral Fellow
2006/3-2007/12,	Bio-X Institutes, Shanghai Jiao Tong University	Assistant Professor
2003/9-2006/3,	Bio-X Institutes, Shanghai Jiao Tong University	Postdoctoral Fellow

Honors

1. 2008 Shanghai Jiaotong University “SMC-Morning Star Young Scholars Award Scheme” Category B
2. 2013 Shanghai Jiaotong University “SMC-Morning Star Young Scholars Award Scheme” Category A

Publications

1. Jiang J, Peng C, Sun L, Li J, Hu X, Qing Y, Yang X, Li Y, Xu C, Zhang J, Min J, Li X, Qin S, Mei L, Tan L, **Wan C***. Leukocyte Proteomic Profiling in First-Episode Schizophrenia Patients: Does Oxidative Stress Play Central Roles in the Pathophysiology Network of Schizophrenia? *Antioxidant Redox Signaling*. 2019 Sep 10;31(8):579-588. (Corresponding Author)
2. Xu C, Yang X, Sun L, Yang T, Cai C, Wang P, Jiang J, Qing Y, Hu X, Wang D, Wang P, Cui G, Zhang J, Li Y, Ji F, Liu C, and **Wan C***. An investigation of calcium-independent phospholipase A2 (iPLA2) and cytosolic phospholipase A2 (cPLA2) in schizophrenia, *Psychiatry Research*. 2019 Jan 29; 273: 782-87. (Corresponding Author)
3. Jiang J, Chen X, Sun L, Qing Y, Yang X, Hu X, Yang C, Xu T, Wang J, Wang P, He L, Dong C, **Wan C***. Analysis of the concentrations and size distributions of cell-free DNA in schizophrenia using fluorescence correlation spectroscopy. *Translational Psychiatry*. 2018 May 22;8(1):104. (Corresponding Author)
4. Sun L, Yang X, Jiang J, Hu X, Qing Y, Wang D, Yang T, Yang C, Zhang J, Yang P, Wang P, Cai C, Wang J, He L, **Wan C***. Identification of the niacin-blunted subgroup of schizophrenia patients from mood disorders and healthy individuals in Chinese population. *Schizophrenia Bulletin*. 2017 Oct 25; 44(4):896-907. (Corresponding Author)
5. Yang X, Sun L, Zhao A, Hu X, Qing Y, Jiang J, Yang C, Wang P, Liu J, Zhang J, He L, Jia W, **Wan C***. Serum fatty acid patterns in patients with schizophrenia: a targeted metabolomics study. *Translational Psychiatry*. 2017 Jul 25; 7(7): e1176. (Corresponding Author)
6. Yang C, Zhou Q, Li M, Tong X, Sun J, Qing Y, Sun L, Yang X, Hu X, Jiang J, Yan X, He L, **Wan C***. Upregulation of CYP2S1 by oxaliplatin is associated with p53 status in colorectal cancer cell lines. *Sci Rep*. 2016 Sep 9;6:33078. doi: 10.1038/srep33078. (Corresponding Author)
7. Hu X, Du S, Yu J, Yang X, Yang C, Zhou D, Wang Q, Qin S, Yan X, He L, Han D, **Wan C***. Common housekeeping proteins are upregulated in colorectal adenocarcinoma and hepatocellular carcinoma, making the total protein a better "housekeeper" *Oncotarget*. 2016 Aug 20; doi: 10.18632. (Corresponding Author)
8. Qing Y, Sun L, Yang C, Jiang J, Yang X, Hu X, Cui D, Xu Y, He L, Han D, **Wan C***. Dysregulated 14-3-3 family in peripheral blood leukocytes of patients with schizophrenia. *Scientific Reports*. 2016 Mar 31; 6:23791. (Corresponding Author)
9. Sun L, Qing Y, Yang X, Yang C, Jiang J, Hu X, Ding J, He L, Tan L, **Wan C***. Gene expression profiling of the xMHC region reveals 9 candidate genes in schizophrenia. *The Journal of Clinical Psychiatry*. 2016 May 77; e597-599. (Corresponding Author)

10. Zhu Y, Cong Q, Liu Y, **Wan C**, Yu T, He G, He L, Cai L, Chou K. Antithrombin, an Important Inhibitor in Blood Clots. *Curr Top Med Chem*. 2016;16(6):666-74.
11. Cai L, Chen T, Yang J, Zhou K, Yan X, Chen W, Sun L, Li L, Qin S, Wang P, Yang P, Cui D, Burmeister M, He L, Jia W, **Wan C***. Serum trace element differences between Schizophrenia patients and controls in the Han Chinese population. *Scientific Reports*, Article number: 15013(2015) doi:10.1038/srep15013 (Corresponding Author)
12. Cai L, Cai M, Wang M, Xu Y, Chen W, Qin S, **Wan C**, He L. Meta-Analysis-Based Preliminary Exploration of the Connection between ATDILI and Schizophrenia by GSTM1/T1 Gene Polymorphisms. *PLoS One*. 2015 Jun 5;10(6):e0128643.
13. Cai L, **Wan C**, He L, Jong Sd, Chou K. Gestational Influenza Increases the Risk of Psychosis in Adults. *Med Chem*. 2015;11(7):676-82.
14. Jiang S, Li L, Yue J, Chen W, Yang C, **Wan C**, He L, Cai L, Deng S. The effects of SP110's associated genes on fresh cavitory pulmonary tuberculosis in Han Chinese population. *Clin Exp Med*. 2015 Jan 23.
15. Qing Y, Yang J, **Wan C***. Increased serum fibroblast growth factor 21 levels in patients with Schizophrenia. *Australian and New Zealand Journal of Psychiatry* (Corresponding Author)
16. Yang C, Li C, Li M, Tong X, Hu X, Yang X, Yan X, He L, **Wan C***. CYP2S1 depletion enhances colorectal cell proliferation is associated with PGE2-mediated activation of β -catenin signaling. *Exp Cell Res*. 2014 Dec 31. pii: S0014-4827(14)00549-7. (Corresponding Author)
17. Jiang J, Zhang X, Huo R, Li X, Yang Y, Gai Z, Xu M, Shen L, Cai L, **Wan C**, Li B, He L, Qin S. Association study of UGT1A9 promoter polymorphisms with DILI based on systematically regional variation screen in Chinese population. *the Pharmacogenomics Journal* 2015 Aug;15(4):326-31.
18. Hao C, Zhou Y, Wang J, Peng M, Xie Y, Kang W, Sun L, Wang P, **Wan C**, He L, Cai L, Jia Z. Role of Nogo-A in the regulation of hepatocellular carcinoma SMMC-7721 cell apoptosis. *Molecular Medicine Reports*. 2014 Feb 9: 1743-1748
19. Wang K, Sun J, Zhou S, **Wan C**, Qin S, He L, Yang L. Prediction of drug-target interactions for drug repositioning only based on genomic expression similarity. *PLOS Computational Biology*.2013.
20. Sun L, Li J, Zhou K, Zhang M, Yang J, Li Y, Ji B, Zhang Z, Zhu H, Yang L, He G, Gao L, Wei Z, Wang K, Han X, Liu W, Tan L, Yu Y, He L, **Wan C***. Metabolomic Analysis Reveals Metabolic Disturbance in the Cortex and Hippocampus of Subchronic MK-801 Treated Rats. *PLoS One*. 2013;8(4):e60598. doi: 10.1371/journal.pone.0060598. Epub 2013 Apr 5. (Corresponding Author)
21. Cai L, Deng S, Liang L, Pan H, Zhou J, Wang M, Yue J, **Wan C**, He G, He L. (2013) Identification of genetic associations of SP110/MYBBP1A/RELA with pulmonary tuberculosis in the Chinese Han population. *Hum Genet*. 2013 Mar;132(3):265-73.
22. Shi Y, Zhao H, Shi Y, Cao Y, Yang D, Li Z, Zhang B, Liang X, Li T, Chen J, Shen J, Zhao J, You L, Gao X, Zhu D, Zhao X, Yan Y, Qin Y, Li W, Yan J, Wang Q, Zhao J, Geng L, Ma J, Zhao Y, He G, Zhang A, Zou S, Yang A, Liu J, Li W, Li B, **Wan C**, Qin Y, Shi J, Yang J, Jiang H, Xu J, Qi X, Yun Sun Y, Zhang Y, Hao C, Ju X, Zhao D, Ren C, Li X, Zhang W, Zhang Y, Zhang J, Wu D, Zhang C, He L, Jiang Chen Z. Genome-wide association study identifies eight new risk loci for polycystic ovary syndrome. *Nature Genetics* 2012 Aug 12;44(9):1020-5.

23. Li Y, Zhou K, Sun L, Yang J, Zhang M, Ji B, Tang K, Wei Z, He G, Gao L, Yang L, Wang P, Ping Yang P, Feng G, He L*, **Wan C***. Label-free quantitative proteomic analysis reveals dysfunction of complement pathway in peripheral blood of schizophrenia patients: evidence for the immune hypothesis of schizophrenia. *Mol Biosyst.* 2012 Oct;8(10):2664-71 (Corresponding Author)
24. Zhao Q, Liu B, Zhang J, Wang L, Li X, Wang Y, Ji J, Yang F, **Wan C**, Xu Y, Feng G, He L, He G. Association between a COMT polymorphism and clinical response to risperidone treatment: a pharmacogenetic study. *Psychiatr Genet.* 2012 Dec;22(6):298-9.
25. Gu Z, Zhao P, He G, **Wan C**, Ma G, Yu L, Zhang J, Feng G, He L, Gao L. An Arg124His mutation in TGFBI associated to Avellino corneal dystrophy in a Chinese pedigree. *Mol Vis.* 2011;17:3200-7.
26. Shi Y, Li Z, Xu Q, Wang T, Li T, Shen J, Zhang F, Chen J, Zhou G, Ji W, Li B, Xu Y, Liu D, Wang P, Yang P, Liu B, Sun W, **Wan C**, Qin S, He G, Stacy Steinberg, Sven Cichon, Thomas Werge, Engilbert Sigurdsson, Sarah Tosato, Aarno Palotie, Markus M Nöthen, Marcella Rietschel, Roel A Ophoff, David A Collier, Dan Rujescu, David St Clair, Hreinn Stefansson, Kari Stefansson, Ji J, Wang Q, Li W, Zheng L, Zhang H, Feng G & He L. Common variants on 8p12 and 1q24.2 confer risk of schizophrenia. *Nature Genetics* 2011 Oct 30;43(12):1224-7.
27. Yang J, Chen T, Sun L, Zhao Z, Qi X, Zhou K, Cao Y, Wang X, Qiu Y, Su M, Zhao A, Wang P, Yang P, Wu J, Feng G, He L, Jia W, and **Wan C***. Potential metabolite markers of schizophrenia. *Mol Psychiatry* 2013 Jan;18(1):67-78 (Corresponding Author)
28. Li Y, Tang K, Zhou K, Wei Z, Zeng Z, He L, **Wan C***. Quantitative assessment of the effect of ABCA1 R219K polymorphism on the risk of coronary heart disease. *Mol Biol Rep.* 2012 Feb;39(2):1809-13. (Corresponding Author)
29. Yang L, Wang K, Chen J, Jegga AG, Luo H, Shi L, **Wan C**, Guo X, Qin S, He G, Feng G, He L. (2011) Exploring Off-Targets and Off-Systems for Adverse Drug Reactions via Chemical-Protein Interactome - Clozapine-Induced Agranulocytosis as a Case Study. *PLoS Comput Biol.* 2011 Mar;7(3):e1002016. Epub 2011 Mar 31.
30. Sun J, **Wan C**, Jia P, Fanous AH, Kendler KS, Riley BP, Zhao Z. Application of systems biology approach identifies and validates GRB2 as a risk gene for schizophrenia in the Irish Case Control Study of Schizophrenia (ICCS) sample. *Schizophr Res.* 125(2-3):201-8
31. Shen Q, Zhang J, Wang Y, Liu B, Li X, Zhao Q, Chen S, Ji J, Yang F, **Wan C**, Gao L, Xu Y, Feng G, He L, He G. (2011) No association between the KCNH1, KCNJ10 and KCNN3 genes and schizophrenia in the Han Chinese population. *Neurosci Lett.* 487(1):61-5
32. Li Y, Tang K, Zhang Z, Zhang M, Zeng Z, He Z, He L*, **Wan C***. (2011) Genetic diversity of the apolipoprotein E gene and diabetic nephropathy: a meta-analysis. *Mol Biol Rep.* 2011 Jun;38(5):3243-52. (Corresponding Author)
33. Zhou K, Yang Y, Gao L, He G, Tang K, Ji B, Zhang M, Li Y, Yang J, Sun L, Zhang Z, Zhu H, He L and **Wan C***. NMDA receptor hypofunction induces dysfunctions of energy metabolism and semaphorin signaling in rats: A synaptic proteome study. *Schizophr Bull.* 2012 May;38(3):579-91 (Corresponding Author)
34. Zhang M, Huang K, Zhang Z, Ji B, Zhu H, Zhou K, Li Y, Yang J, Sun L, Wei Z, He G, Gao L, He L, **Wan C***. Proteome alterations of cortex and hippocampus tissues in mice subjected to Vitamin A depletion. *J Nutr Biochem.* 2011 Nov;22(11):1003-8. (Corresponding Author)
35. Wang Y, Zhang J, Liu B, Shao L, Wei Z, Li X, Ji J, Yang F, Wang T, Liu J, **Wan C**, Li B, Xu Y, Feng G, He L, He G. Genetic polymorphisms in the SCN8A gene are associated with suicidal

- behavior in psychiatric disorders in the Chinese population. *World J Biol Psychiatry*. 2010 Dec;11(8):956-63
36. Liu B, Zhang J, Wang L, Li X, Wang Y, Wei Z, Ji J, Yang F, **Wan C**, Xu Y, Feng G, He L, He G. HTR2C promoter polymorphisms are associated with risperidone efficacy in Chinese female patients. *Pharmacogenomics*. 2010 May 11(5):685-92.
37. Gu Z, Ji B, **Wan C**, He G, Zhang J, Zhang M, Feng G, He L, Gao L. (2010) A splice site mutation in CRYBA1/A3 causing autosomal dominant posterior polar cataract in a Chinese pedigree. *Mol Vis*. Feb 5;16:154-60.
38. Liu B, Zhang J, Wang L, Li X, Wang Y, Ji J, Yang F, **Wan C**, Gao L, Xu Y, Feng G, He L, Zhao X, He G. (2010) No association between EGR gene family polymorphisms and schizophrenia in the Chinese population. *Prog Neuropsychopharmacol Biol Psychiatry*. 2010 Apr 16;34(3):506-9
39. Zhang M, Ji B, Zou H, Shi J, Zhang Z, Zhu H, Feng G, Jin M, Yu L, He L and **Wan C***. Vitamin A depletion alters sensitivity of motor behaviors to MK-801 in C57BL/6J mouse. Behavioral and Brain Functions. 2010 Jan 22;6:7 (Corresponding Author)
40. Zhang M, Zhao Z, He L and **Wan C***. A meta-analysis of oxidative stress markers in schizophrenia. *Sci China Life Sci*. 2010 Jan;53(1):112-24 (Corresponding Author)
41. **Wan C**, Shi Y, Zhao X, Tang W, Zhang M, Ji B, Zhu H, Xu Y, Li H, Feng G, He L. Positive association between ALDH1A2 and schizophrenia in the Chinese population. *Prog Neuropsychopharmacol Biol Psychiatry*. 33: 1491-1495 (First Author)
42. Ji B, Zhang Z, Zhang M, Zhu H, Zhou K, Yang J, Li Y, Sun L, Feng G, Wang Y, He L, and **Wan C***. Differential expression profiling of the synaptosome proteome in a rat model of antipsychotic resistance. *Brain Res*. 1295:170-178 (Corresponding Author)
43. Ji B, La Y, Gao L, Zhu H, Tian N, Zhang M, Yang Y, Zhao X, Tang R, Ma G, Zhou J, Meng J, Ma J, Zhang Z, Li H, Feng G, Wang Y, He L, **Wan C***. A Comparative Proteomics Analysis of Rat Mitochondria from the Cerebral Cortex and Hippocampus in Response to Antipsychotic Medications. *J Proteome Res*. 8(7): 3633-3641 (Corresponding Author)
44. Li X, Zhang J, Wang Y, Ji J, Yang F, **Wan C**, Wang P, Feng G, Lindpaintner K, He L, He G. Association study on the NAPG gene and bipolar disorder in the Chinese Han population. *Neurosci Lett*. 457(3):159-162.
45. Liu X, Zeng B, Ma J, **Wan C***. Comparative Proteomic Analysis of Osteosarcoma Cell and Human Primary Cultured Osteoblastic Cell. *Cancer Invest*. 2009. 27(3): 345-352 . (Corresponding Author)
46. Zhang M, **Wan C***, Ji B, Zhang Z, Zhu H, Tian N, La Y, Huang K, Jiang L, He G, Gao L, Zhao X, Shi Y, Huang G, Feng G, He L*. (2009) Proteome alteration of U251 human astrocytoma cell after inhibiting retinoic acid synthesis. *Mol Cell Biochem*. 323(1-2):185-193 (Corresponding Author)
47. Wang Y, Zhang J, Li X, Ji J, Yang F, **Wan C**, Feng G, Wang P, He L, He C. SCN8A as a novel candidate gene associated with bipolar disorder in the Han Chinese population. *Prog Neuropsychopharmacol Biol Psychiatry*. 2008. 32(8): 1902-1904
48. Shen Q, Li X, Qiu Y, Su M, Liu Y, Li H, Wang X, Zou X, Yan C, Yu L, Li S, **Wan C**, He L, Jia W (2008) Metabonomic and Metallomic Profiling in the Amniotic Fluid of Malnourished Pregnant Rats. *J Proteome Res*. 7(5):2151-7

49. Shen Q, Li Z, Sun Y, Wang T, **Wan C**, Li X, Zhao X, Feng G, Li S, St Clair D, He L, Yu L (2008). The role of pro-inflammatory factors in mediating the effects on the fetus of prenatal undernutrition: Implications for schizophrenia. *Schizophr Res.* 99(1-3):48-55.
50. **Wan C**[#], La Y[#], Zhu H, Yang Y, Jiang L, Chen Y, Feng G, Li H, Sang H, Hao X, Zhang G and He L. Abnormal Changes of Plasma Acute Phase Proteins in Schizophrenia and the Relation between Schizophrenia and Haptoglobin (Hp) Gene. *Amino Acids.* 2007. 32: 101-108 (First Author)
51. La J[#], **Wan C**[#], Zhu H, Yang Y, Chen Y, Pan Y, Feng G, and He L. Decreased levels of apolipoprotein A-I in plasma of schizophrenic patients. *J Neural Transm.* 2007. 114: 657–663 (First Author)
52. Fang X, Huang D, Wang Z, **Wan C**, Sun T, Xu W, Liu C, Zhou P and Qiao Z. Identification of the proteins related to cytochrome P450 induced by fenvalerate in a *Trichoplusia ni* cell line. *Cell Biol Toxicol.*, 2007. 23(6):445-57
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55. **Wan C**[#], Yang Y[#], Li H, La Y, Zhu H, Feng G and He L. Dysregulation of Retinoid Transporters Expression in Body Fluids in Schizophrenia Patients. *J. Proteome Res.* 2006. 5: 3213-3216 (First Author)
56. Yang Y[#], **Wan C**[#], Li H, Zhu H, La Y, Xi Z, Chen Y, Jiang L, Feng G, and He L. Altered Levels of Acute Phase Proteins in the Plasma of Patients with Schizophrenia. *Anal. Chem.* 2006. 78: 3571 – 3576. (First Author)
57. La Y^{*}, **Wan C**[#], Zhu H, Yang Y, Chen Y, Pan Y, Ji B, Feng G, and He L. Hippocampus protein profiling reveals aberration of malate dehydrogenase in chlorpromazine/clozapine treated rats. *Neurosci Lett.* 2006. 408(1): 29-34. (First Author)
58. Chen Q[#], Chen Q, [#] Feng G[#], **Wan C**[#], Klaus Lindpaintner, Wang L, Chen Z, Gao Z, Tang J, Li X and He L^{*}. Association between the brain-derived neurotrophic factor (BDNF) gene and Schizophrenia in the Chinese population. *Neurosci Lett.* 2006. 397: 285–290 (Corresponding Author)
59. **Wan C**, Yang Y, Feng G, Gu N, Liu H, Zhu S, He L and Wang L. Polymorphisms of myelin-associated glycoprotein gene are associated with schizophrenia in the Chinese Han population. *Neurosci Lett.*, 388: 126-131. (First Author)
60. Zhang P, Yang Z, **Wan C**, Zheng W, Zhang C, Li S, Lu Z, Zheng C, Jin F, Wang L. Neither the tumor necrosis factor alpha-308 A/G polymorphism nor the alpha2-macroglobulin polymorphism was associated with late-onset Alzheimer's disease in the Chinese population. *Yi Chuan Xue Bao.* 2004. 31(1): 1-6.
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62. Tan YD, **Wan C**, Zhu Y, Lu C, Xiang Z, Deng H. An Amplified Fragment Length Polymorphism Map of the Silkworm. *Genetics*, 2001. 157: 1277-1284.

Projects

1. National Natural Science Foundation of China, “Study on cross-scale phenotypic characteristics of schizophrenia and construction of related networks” (No. 81971254, **Project Leader**, 2020.01-2023.12, ¥550,000, in progress)
2. Shanghai Municipal Science and Technology Major Project “International Human Phenotype Group Plan (Phase I) “Study on Cross-scale Phenotypic Characteristics of Schizophrenia and Construction of Related Network” (No. 2017SHZDZX01, **Project Leader**, 2019.01-2021.12, ¥600,000, in progress)
3. Shanghai Jiao Tong University “Transformation Medicine Cross-Research Fund” project “Study on the effect of blastomere loss on offspring health and its mechanism during human early embryo freezing and thawing” (main member of project team, 2019-2021, in progress)
4. Shanghai Jiao Tong University “Transformation Medicine Cross Research Fund” Project “Molecular Diagnostic Technique for Schizophrenia Based on Niacin Skin Response” (main member of the project team, 2018-2020, in progress)
5. National Natural Science Foundation of China, “Study on abnormal metabolism of unsaturated fatty acids in schizophrenia” (No. 81771440, **Project Leader**, 2018.01-2021.12, ¥540,000, in progress)
6. Shanghai Science and Technology Commission Key Research and Development Program “Children's Intellectual Development Disability Research Resource Bank” (No. 16JC1420500, **Project Leader**, 2017.1-2019.12, ¥2,000,000, in progress)
7. Shanghai Jiao Tong University “Medical and Industrial Cross Research Fund” project “The role of ENA78-related pathways in the pathogenesis of depression” (main member of the project team, 2017-2019, in progress)
8. National Key R&D Program “Construction of schizophrenia staging identification biomarker and multi-level risk control system” (No. 2016YFC1306800, main member of the project, 2016.01-2020.12, ¥1,020,000, in progress)
9. National Key Research and Development Program “Study on Individualized Treatment Options for Antipsychotic Drugs” (No. 2016YFC1306900, main member of the project, 2016.01-2020.12, ¥1,600,000, in progress)
10. Shanghai Jiao Tong University “Doctor Cross-Research Fund” project “Comparative proteomics research on early diagnosis of schizophrenia biomarkers” (No. YG2013MS64, main member of the project team, 2014.01-2015.12, ¥150,000, completed)
11. National Natural Science Foundation International (Regional) Cooperation and Exchange Project “Study on Brain Immunohistochemistry and Proteomics System of Sp4 Gene Deficient Rats” (No. 81261120392, **Project Leader**, 2013.01-2013.12, ¥300,000, completed)
12. National Natural Science Foundation of China, “Using supergroup method to study liver metabolic disorders in mice treated with antipsychotic drugs” (No. 81271486, **Project Leader**, 2013.01-2016.12, ¥700,000, completed)

13. The Major Scientific Research Project of the Ministry of Science and Technology, “The regulation network of metabolism-related protein modification and its effect on metabolism” (No. 2012CB910102, **Project Leader**, 2012.01-2016.08, ¥6,160,000, completed)
14. Shanghai Jiao Tong University “Medical and Industrial Cross Research Fund” project “The role of oligodendrocytes and their differentiation regulator Olig2 in the pathogenesis of schizophrenia” (No. YG2011MS54, main member of the project team, 2012.01-2013.12 , ¥100,000, completed)
15. National Natural Science Foundation of China, “Using supergroup method to study liver metabolic disorders in mice treated with antipsychotic drugs” (No. 31071159, **Project Leader**, 2011.01-2013.12, ¥380,000, completed)
16. National Natural Science Foundation of China Youth Science Fund Project “Study on Protein Molecular Markers of Schizophrenia” (No. 30700203, **Project Leader**, 2008.01-2010.12, ¥170,000, completed)
17. Shanghai Jiao Tong University SMC-Morning Star Excellent Young Teacher Award Class B Project “Study on Metabolic Markers of Schizophrenia” (**Project Leader**, 2008.01-2010.12, ¥80,000, completed)
18. Major scientific research project of the Ministry of Science and Technology, “metabolism research on common mental diseases” (No. 2006CB910601, **Project Leader**, 2006.01-2010.08, ¥4,110,000, completed)

Patents

1. The Acquisition and Application of Plasma Biomarker for Schizophrenia Diagnosis
Inventor: Lin He, Chunling Wan, Lei Jiang, Yujuan La, Hui Zhu, Yifeng Yang, Guoyin Feng
Application Number: 200510024102.8
Authorization number: 308588