

Curriculum vitae and publication list

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EDUCATION

- 1980- 1984: B.S., Agricultural Chemistry, National Taiwan University,
Taipei, Taiwan, R.O.C.
- 1984- 1988: Ph. D., Molecular & Cellular Biology, Univ. of Massachusetts,
Amherst, MA, USA

PROFESSIONAL EXPERIENCE

- 1988-1990: *Postdoctoral study*,
Lab. for Cell and Molecular Biology,
New England Deaconess Hospital,
Harvard Medical School, MA, USA
- 1991- 1996 *Assistant Research Fellow*,
Institute of Biomedical Sciences,
Academia Sinica, Taipei, Taiwan, R. O. C.
- 1996- 2002 *Associate Research Fellow*,
Institute of Biomedical Sciences,
Academia Sinica, Taipei, Taiwan, R. O. C.
- 2002-present *Research Fellow*,
Institute of Biomedical Sciences,
Academia Sinica, Taipei, Taiwan, R. O. C.
- 2004.3-2006.3 *Deputy Director*,
Institute of Biomedical Sciences,
Academia Sinica, Taipei, Taiwan, R. O. C.
- 2008.1-2009.12 *Program Director*
Taiwan International Graduate Program on Molecular Medicine
- 1991- 2003 *Adjunct Associate Professor*,
Institute of Neuroscience,

- National Yang-Ming Medical College,
Taiwan, R. O. C.
- 2003- present *Adjunct Professor,*
Institute of Neuroscience,
National Yang-Ming Medical College,
Taiwan, R. O. C.
- 1993- 2003 *Adjunct Associate Professor,*
Institute of Life Science,
National Defense Medical Center, Taiwan, R. O. C.
- 2003- present *Adjunct Professor,*
Institute of Life Science,
National Defense Medical Center, Taiwan, R. O. C.

HONORS AND AWARDS:

- 1998 Young Investigator Award, Academia Sinica
- 1998-2000 Member, Scientific Review Committee, Biochemistry/Biology Section,
National Science Council, Taiwan
- 1999-2000 Research Outstanding Award, National Science Council, Taiwan
- 1999 The eighteenth “Ten Outstanding Young Women”, Taiwan
- 2001-2002 Research Outstanding Award, National Science Council, Taiwan
- 2002 The fortieth “Ten Outstanding Young Men”, Taiwan
- 2003-2004 Research Outstanding Award, National Science Council, Taiwan
- 2005-2006 Special Project, National Science Council, Taiwan
- 2006-2011 Frontier Science Research Grant, National Science Council, Taiwan

PUBLICATIONS (ξ, corresponding author)

A) Papers

1. Chern Y, Herrera M, Kao LS and Westhead EW^ξ (1987) Inhibition of catecholamine secretion from bovine chromaffin cells by adenine nucleotides and adenosine. J. Neurochem. 48, 1573-1576.
2. Chern Y, Kim KT, Slakey LL and Westhead EW^ξ (1988) Adenosine receptors activate adenylate cyclase and enhance secretion from bovine adrenal chromaffin cells in the presence of forskolin. J. Neurochem. 50, 1484-1493.
3. Chern Y, Yonekura S and Sytkowski AJ^ξ (1990) Potentiation of the erythropoietin response by dimethyl sulfoxide priming of erythroleukemia cells: evidence for interaction of two signaling pathways. Blood, 76 (11): 2204 - 2209.
4. Chern Y, Yonekura S and Sytkowski AJ^ξ (1990) Dimethyl sulfoxide amplification of the erythropoietin response: clues to the signal transduction pathway. in The Biology of

Hematopoiesis. N. Dainiak, E. P. Cronkite, R. MaCaffrey and R. K. Shadduck, eds. (New York, Wiley-Liss), pp: 161-167.

5. Chern Y, Chung T and Sytkowski AJ^ξ (1991) Structural role of amino acids 99-110 recombinant human erythropoietin. Eur. J. Biochem. 202: 225-229.
6. Chern Y, Spangler R, Choi H-S and Sytkowski AJ^ξ (1991) Erythropoietin activates the receptor in both Rauscher and Friend murine erythroleukemia cells. J. Biol. Chem., 266: 2009-2012 .
7. Chern Y, O'hara CJ, and Sytkowski AJ^ξ (1991) Induction of hemoglobin synthesis by down-regulation of myb protein with an antisense oligodeoxynucleotide. Blood 78 (4): 991-996.
8. Yonekura S, Chern Y, Donahue KA, Feldman L, Vanasse GJ and Sytkowski AJ^ξ (1991) Erythropoietin receptor induced by dimethyl sulfoxide exhibit positive cooperativity associated with an amplified biologic response. Proc. Natl. Acad. Sci., USA, 88: 2535-2539.
9. Feldman L, Heinzerling R, Hillam RP, Chern Y, Frazier JG, Davis KL and Sytkowski AJ^ξ (1992) Four unique monoclonal antibodies to the putative receptor binding domain of erythropoietin inhibit the biological function of the hormone. Exp. Hematol. 20: 64-68.
10. Chern Y^ξ, King K, Lai H-L and Lai HT (1992) Molecular cloning of a novel adenosine receptor gene from rat brain. Bioch. Bioph. Res. Comm. 185 (1): 304-309.
11. Chern Y^ξ, Bott M, Chu P-J, Lin, Y-J, Kao L-S and Westhead EW (1992) The adenosine analogue, N⁶-L-phenylisopropyladenosine inhibits catecholamine secretion from bovine adrenal medulla cells by inhibiting calcium influx. J. Neurochem. 59: 1399-1404.
12. Chern Y, Chueh S-H, Lin Y-J, Ho C-M and Kao L-S^ξ (1992) Presence of Na⁺/Ca²⁺ exchange activity and its role in regulation of intracellular calcium concentration in bovine adrenal chromaffin cells. Cell Calcium, 13: 99-106.
13. Chern Y^ξ, Lai H-L, Fong JC, and Liang Y (1993) Multiple Mechanisms for Desensitization of A2a Adenosine Receptor-Mediated cAMP Elevation in Rat Pheochromocytoma PC12 cells. Mol. Pharmacology 44: 950-958.
14. Su Y-C, Kao L-S, Chu Y-Y, Liang Y, Tsai M-H and Chern Y^ξ (1994) Distribution and regulation of rab3c, a small molecular weight GTP-binding protein. Bioch. Bioph. Res. Comm. 200 (3): 1257-1263.
15. Chen L-M, Chern Y, Ong S-J and Tai J-H^ξ (1994) Molecular cloning and characterization of a *ras*-related gene of *ran/tc4/spi1* subfamily in *Giardia lamblia*. J. Biol. Chem. 269 (25): 17297-17304.
16. Chen L -M, Liang Y, Tai J-H and Chern Y^ξ (1994) Comparison of nitrocellulose and PVDF membranes in GTP-overlay assay and Western blot analysis. BioTechniques, 16: 600-601.

17. Chern Y^ξ, Chiou J-Y, Lai H-L, and Tsai M-H (1995) Regulation of Adenylyl Cyclase Type VI Activity During Desensitization of the A_{2a}-Adenosine Receptor-Mediated cAMP Response: A Role for Protein Phosphatase 2A. Mol. Pharmacology, 48: 1-8.
18. Uphues I, Chern Y and Eckel J^ξ (1995) Insulin-dependent translocation of the small GTP-binding protein rab3C in cardiac muscle: studies on insulin-resistant Zucker rats. FEBS Lett., 377: 109-112.
19. Chu Y-Y, Tu K-H, Lee Y-C, Kuo Z-J, Lai H-L and Chern Y^ξ (1996) Characterization of rat A_{2a} adenosine receptor gene. DNA and Cell Biology, 15: 329-337.
20. Chern Y^ξ, Lee EHY, Lai H-L, Wang H-L, Lee Y-C and Ching Y-H (1996) Circadian rhythm in the Ca²⁺-inhibitable adenylyl cyclase activity of the rat striatum. FEBS Lett., 385: 205-208.
21. Lai HL, Yang T-H, Messing RO, Ching Y-H, Lin S-C and Chern Y^ξ (1997) Protein kinase C inhibits adenylyl cyclase type VI activity during desensitization of the A_{2a}-adenosine receptor-mediated cAMP response. J. Biol. Chem. 272: 4970-4977.
22. Chang YH, Conti M, Lee Y-C, Lai H-L, Ching Y-H and Chern Y^ξ (1997) Activation of Phosphodiesterase IV During Desensitization of the A_{2a}-adenosine Receptor-mediated cAMP Response in Rat Pheochromocytoma (PC12) Cells. J. Neurochem. 69: 1300-1309.
23. Liu F-C, Wu G-C, Hsieh S-T, Lai H-L, Wang H-F, Wang T-W and Chern Y^ξ (1998) Expression of type VI adenylyl cyclase in the central nervous system: implication for a potential regulator of multiple signals in different neurotransmitter systems. FEBS Lett. 436: 92-98.
24. Huang CL, Chen HC, Huang N-K, Yang D-M, Kao LS, Chen JC, Lai HL and Chern Y^ξ (1999) Modulation of dopamine transporter activity by nicotinic acetylcholine receptors and membrane depolarization in rat pheochromocytoma PC12 cells. J. Neurochem. 72: 2437-2444.
25. Lai H-L, Lin T-H, Kao Y-Y, Lin W-J, Hwang M-J, and Chern Y^ξ (1999) The N terminal domain of type VI adenylyl cyclase mediates its inhibition by protein kinase C. Mol. Pharmacology 56: 644-650.
26. Lee Y-C, Chang C-W, Su C-W, Lin T-N, Sun SH, Lai H-L, and Chern Y^ξ (1999) The 5' untranslated regions of rat A_{2A} adenosine receptor gene function as negative translational regulators. J. Neurochem. 73: 1790-1798.
27. Chern Y (2000) Regulation of Adenylyl Cyclase in the Central Nervous System. Cellular Signalling 12: 195-204. **(Impact Factor= 4.094)**
28. Huang N-K, Lin Y-W, Huang C-L, Messing RO, and Chern Y^ξ. (2001) Activation of protein kinase A and atypical protein kinase C by A_{2A} adenosine receptors antagonizes apoptosis due to serum deprivation in PC12 cells. J. Biol. Chem. 276: 13838-13846. **(Impact Factor= 5.328)**

29. Wu G-C, Lai H-L, Lin Y-W, Chu Y-T and Chern Y^ξ. (2001) N-Glycosylation and residues Asn⁸⁰⁵ and Asn⁸⁹⁰ are involved in the functional properties of type VI adenylyl cyclase. J. Biol. Chem. 276: 35450-35457. (**Impact Factor= 5.328**)
30. Lin T-H, Lai H-L, Kao Y-Y, Sun C-N, Hwang M-J and Chern Y^ξ. (2002) Protein kinase C inhibits type VI adenylyl cyclase (ACVI) by phosphorylating the regulatory N domain and two catalytic C1 and C2 domains. J. Biol. Chem. 277: 15721-15728. (**Impact Factor= 5.328**)
31. Cheng H-C, Shih H-M, and Chern Y^ξ. (2002) Essential role of CREB activation by A_{2A} adenosine receptors in rescuing the NGF-induced neurite outgrowth impaired by blockage of the MAPK cascade. J. Biol. Chem. 277: 33930- 33942. (**Impact Factor= 5.328**)
32. Lee Y-C, Lai H-L, Sun C-N, Chien C-L, and Chern Y^ξ. (2003) Identification of nuclear factor 1 (NF1) as a transcriptional modulator of rat A_{2A} adenosine receptor. Mol Brain Res 111: 61-73.
33. Huang C-L, Huang N-K, Shyue S-K, and Chern Y^ξ. (2003) H₂O₂ induces loss of dopamine transporter activity: a calcium-dependent oxidative mechanism. J. Neurochem. 86: 1247-1259. (**Impact Factor= 3.999**)
34. Lee Y-C, Chien C-L, Sun C-N, MC Chiang, Huang C-L, Huang N-K, Lai H-L, Lin Y-S, Chiou S-Y, Liao W-L, Liu F-C, Wang L, Tai M-H, Lin T-N and Chern Y^ξ. (2003) Characterization of the rat A_{2A} adenosine receptor gene: a 4.8-kb promoter-proximal DNA fragment confers selective expression in the central nervous system. Eur. J. Neurosci. 18: 1786- 1796. (**Impact Factor= 3.418**)
35. Kao Y-Y, Lai H-L, Hwang M-J, and Chern Y^ξ (2004) An Important functional role of the N terminus domain of type VI adenylyl cyclase (ACVI) in Giα-mediated inhibition. J. Biol. Chem. 279: 34440 – 34448. (**Impact Factor= 5.328**)
36. Chou J-l, Huang C-L, Lai H-L, Hong A. C., Chien C-L, Kao Y-Y and Chern Y^ξ. (2004) Regulation of type VI adenylyl cyclase by Snapin, a SNAP25 interacting protein. J. Biol. Chem. 279: 46271-46279. (**Impact Factor= 5.328**)
37. Chou S-Y, Lee Y-C, Chen H-M, Chiang M-C, Lai H-L, Chang H-H, Wu-Y-C, Sun C-N, Chien C-L, Lin Y-S, Wang S-C, Tung Y-Y, Chang C and Chern Y^ξ. (2005) CGS21680 attenuates symptoms of Huntington's disease in a transgenic mouse model. J. Neurochem. 93: 310-320. (**Impact Factor= 3.999**)
38. Chiang M-C, Lee Y-C, Huang C-L and Chern Y^ξ. (2005) CREB contributes to suppression of the A_{2A} adenosine receptor promoter by mutant Huntingtin with expanded polyglutamine residues. J. Biol. Chem. 280: 14331–14340. (**Impact Factor= 5.328**)
39. Sun C-N, Cheng H-C, Chou J-l, , Lee S-Y, Lin Y-W, Lai H.-L. Chen H-M and Chern Y^ξ. (2006) Rescue of p53 blockage by the A_{2A} adenosine receptor via a novel interacting protein, Translin-associated protein X. Mol. Pharmacology. 70:454-466. (**Impact Factor= 4.531**)

40. Chiang M-C, Chen H-M, Lee Y-H, Chang H-H, Wu-YC, Soong B-w, Chen C-M, Wu Y-R, Wu J-Y, Liu C-S, Niu D-M, Chen Y-T, and Chern Y^ξ. (2007) Dysregulation of C/EBP α by mutant Huntingtin with expanded polyglutamine residues contributes to the urea cycle deficiency in Huntington's disease. Human Molecular Genetics, 16: 483- 498. (highlighted by Allan Tobin: Faculty of 1000 Biology, 6 Feb. 2007, <http://f1000biology.com/article/id/1064752/evaluation>) (**Impact Factor= 7.386**)
41. Chiang M-C, Juo C-G, Chang H-H, Chen H-M, Yi EC and Chern Y^ξ. (2007) Systematic uncovering of multiple pathways underlying the pathology of Huntington's disease by an acid-cleavable isotope-coded affinity taq approach. Mol. Cell. Proteomics, 6: 781 – 797. (highlighted by the Journal of Proteome Research, 6: 1237, 2007) (**Impact Factor= 8.791**)
42. Huang NK, Chern Y, Fang JM, Lin CI, Chen WP, and Lin YL^ξ. (2007) Neuroprotective principles from *Gastrodia elata*. J Nat. Prod. 70: 571-574. (**Impact Factor= 3.159**)
43. Wang S-C, Lai H-L, Chiou Y-T, Ou R-K, Chuen-lin Huang, and Chern Y^ξ (2007). Regulation of type V adenylyl cyclase by Ric8a, a guanine nucleotide exchange factor. Biochem. J. 406: 383-388. (**Impact Factor= 5.155**)
44. Fredholm BB, Chern Y, Franco R and Sitkovsky M (2007). Aspects of the general biology of adenosine A_{2A} signaling. Progress in Neurobiology, 83: 263-276. (**Impact Factor= 9.140**)
45. Chou S-Y, Weng J-Y, Lai H-L, Liao F, Sun SH, Tu P-H, Dickson DW, and Chern Y^ξ (2008). Expanded-polyglutamine huntingtin protein suppresses the secretion and production of a chemokine (CCL5/RANTES) by astrocytes. J. Neuroscience 28: 3277-3290. (highlighted by Allan Tobin: Faculty of 1000 Biology, 21 Apr. 2008, <http://f1000biology.com/article/id/1104936/evaluation>) (**Impact Factor= 7.178**)
46. Popoli P, Blum D, Domenici MR, Burnouf S, and Chern Y (2008). A critical evaluation of adenosine A_{2A} receptors as potentially “druggable” targets in Huntington's disease. Current Pharmaceutical Design 14:1500-1511. (**Impact Factor= 3.988**)
47. Wang S-C, Lin J-T, and Chern Y^ξ (2009). Novel regulation of adenylyl cyclases by direct protein-protein interactions: insights from Snapin and Ric8a. NeuroSignals, 17: 169-180. (**Impact Factor= 5.750**)
48. Chiang M-C, Chen H-M, Lai H-L, Chen H-W, Chou, S-Y, Chen C-M, Tsai F-J, and Chern Y^ξ. (2009) The A_{2A} adenosine receptor rescues the urea cycle deficiency of Huntington's disease by enhancing the activity of the ubiquitin-proteasome system. Human Molecular Genetics. 18: 2929 - 2942. (highlighted by MDLinx, Internal Med Medical News about Huntington's disease, <http://www.mdlinx.com/internalmdlinx/news-article.cfm/2814233>) (**Impact Factor= 7.386**)
49. Lee M-J, Chang C-P, Lee Y-H, Wu Y-C, Tseng H-W, Tung Y-Y, Wu M-T, Chen Y-H, Kuo L-T, Stephenson D, Hung S-I, Wu J-Y, Chang C, Chen Y-T, Chern Y^ξ. (2009)

- Longitudinal evaluation of an N-ethyl-N-nitrosourea-created murine model with normal pressure hydrocephalus. PLoS ONE. 4: e7868. (**Impact Factor= 4.351**)
50. Hsiao H-Y and Chern Y^ξ. Targeting glial cells to elucidate the pathogenesis of Huntington's disease. Molecular Neurobiology. 41:248-255. (**Impact Factor= 4.735**)
51. Sun C-N, Chuang H-C, Wang J-Y, Chen S-Y, Cheng Y-Y, Chern Y^ξ. (2010) The A_{2A} adenosine receptor rescues neuritogenesis impaired by p53 blockage via KIF2A, a kinesin family member. Develop. Neurobiol. 70: 604-621. (**Impact Factor= 2.732**)
52. Chien C-L, Wu-Y-S, Lai H-L, Chen Y-H, Jiang S-T, Shih C-M, Lin S-S, Chang C, and Chern Y^ξ. (2010) Impaired water reabsorption in mice deficient in the type VI adenylyl cyclase (AC6). FEBS Letts. 584: 2883-2890. (*Highlighted by Bellamkonda Kishore: Faculty of 1000 Biology, 2 Jun 2010, <http://f1000biology.com/article/id/3411956/evaluation>*) (**Impact Factor= 3.541**)
53. Su C-K^ξ, Fan Y-P, Chen C-C, Chern Y. Supraspinal contribution to splanchnic sympathetic activity in neonatal mouse and rat brainstem-spinal cord in vitro (2010). Autonomic Neuroscience: Basic and Clinical. 156: 51-59. (**Impact Factor= 1.815**)
54. Chiang M-C, Chen C-M, Lee M-R, Chen H-W, Chen H-M, Wu Y-S, Hung C-H, Kang J-J, Chang C-P, Chang C, Wu Y-R, Tsai Y-S, Chern Y^ξ. (2010) Modulation of energy deficiency in Huntington's disease via activation of the peroxisome proliferator-activated receptor gamma. Human Molecular Genetics. 19: 4043-4058. (*highlighted by MDLinx, Internal Medicine, <http://www.mdlinx.com/internal-medicine/news-article.cfm/3319177>*) (**Impact Factor= 7.386**)
55. Wu Y, Williamson R, Li Z, Vicario A, Xu J, Kasai M, Chern Y, Tongiorgi E, Baraban J^ξ (2011) Dendritic trafficking of BDNF mRNA: regulation by translin-dependent and -independent mechanisms. Journal of Neurochemistry 116: 1112-1121. (**Impact Factor= 3.999**)
56. Lin Y-S^{*}, Chen C-M^{*}, Soong B-w^{*}, Wu Y-R, Chen H-M, Wu D-R, Lin Y-C, Wang C-H^ξ, and Chern Y^ξ. (2011) Dysregulated brain-type creatine kinase contributes to hearing impairment in mice with Huntington's disease. (**These authors contribute equally. ^ξCo-corresponding authors*) Journal of Clinical Investigation 121: 1519-1523. (*highlighted by SciBX: Science-Business eXchange, <http://www.nature.com/scibx/journal/v4/n12/pdf/scibx.2011.350.pdf>*) (**Impact Factor = 15.387**)
57. Chen J-B, Liu EM, Chern T-R, Yang C-W, Lin C-I, Huang N-K, Lin Y-L, Chern Y, Lin J-H, and Fang J-M. (2011) Design and Synthesis of Novel Dual-Action Compounds Targeting Adenosine A_{2A} Receptor and Adenosine Transporter for Neuroprotection. ChemMedChem. (accepted). (**Impact Factor = 3.232**)
58. Huang N-K^{*}, Lin J-H^{*}, Lin J-T, Lin C-I, Liu E M, Lin C-J, Chen W-P, Shen Y-C, Chen H-M, Chen J-B, Lai H-L, Yang C-W, Chiang C-M, Wu Y-S, Chang C, Chen J-F, Fang

J-M^ξ, Lin Y-L^ξ and Chern Y^ξ. A new therapeutic approach for Huntington's disease: design of dual action molecules targeting the adenosinergic system. (**These authors contribute equally. ^ξCo-corresponding authors*) PLoS ONE. (accepted) (**Impact Factor= 4.351**)

59. Ju T-C, Chen H-M, Lin J-T, Chang C-P, Chang W-C, Kang J-J, Sun C-P, Tao M-H, Tu P-H, Chang C, Dickson DW, and Chern Y^ξ. Nuclear translocation of AMP-activated protein kinase α 1 potentiates striatal neurodegeneration in Huntington's disease. Journal of Cell Biology. (accepted) (**Impact Factor= 9.575**)
60. Chiang M-C^ξ, Chern Y, Juo C-G. The dysfunction of hepatic transcriptional factors in mice with Huntington's Disease. Biochimica et Biophysica Acta - Molecular Basis of Disease. (accepted) (**Impact Factor= 4.139**)

B) Book articles

1. Chen J-F^ξ and Chern Y. (2011) Impacts of Methylxanthines and Adenosine Receptors on Neurodegeneration: Human and Experimental Studies. B. Fredholm (eds), Methylxanthines and neurodegenerative disease. Handbook of Experimental Pharmacology. 200: 267-310.

C) Patents

1. TREATMENT OF HUNTINGTON'S DISEASE, (AMPK inhibitors for degeneration disease)
U.S. Patent No.: US 7,220,729 B2 (May 10, 2004-May 9, 2024)
Taiwan Patent: 發明第 I 328613 號 (May 27, 2004- May 26, 2024)
2. THERAPEUTIC GASTRODIA EXTRACTS (治療性天麻萃取物)
U.S. Patent No.: US7,351,434 B2 (Apr. 7, 2006- April 6, 2026)
China Patent No.: ZL 2007 1 0091094.8 (April 9, 2007- April 8, 2027)
Taiwan Patent Pending (Serial No. 95119747; filed on June 2, 2006)
3. METHOD OF MAKING AND USING AN ADENOSINE ANALOGUE
U.S. Patent Pending (filed on December 7, 2007)
4. DUAL FUNCTIONAL ADENOSINE ANALOGUES AND USE THEREOF IN TREATING NEURODEGENERATIVE DISEASES (結合至腺苷酸 A_{2A} 受體和腺苷酸轉運子以預防及治療神經退化疾病的雙功能化合物)
PCT Patent Pending (Serial No. PCT/US10/56516, filed on Nov. 12, 2010)
Taiwan Patent Pending (Serial No. 99138959, filed on Nov. 12, 2010)