

BIOGRAPHICAL SKETCH

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NAME Kenneth Kun-Yu Wu	POSITION TITLE Distinguished Investigator and President, National Health Research Institutes, Zhunan, Taiwan	
eRA COMMONS USER NAME KWU001	Huffington Chair Professor emeritus, University of Texas Health Science Center, Houston, Texas, U.S.A.	
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>		
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	FIELD OF STUDY
National Taiwan University Medical School, Taipei, Taiwan	M.D.	Medicine
Yale University Medical School, New Haven, Connecticut USA	M.S.	Immunology
University of London, London, United Kingdom	Ph.D.	Pharmacology
University of Iowa, Iowa City, Iowa USA		Resident/Medicine
University of Iowa, Iowa City, Iowa USA		Fellow/Hematology-
Taipei Medical University, Taipei, Taiwan	Doctorate of Philosophy, Honoris Causa	

A. Positions and Honors**Positions and Employment**

- 1974—1976 Assistant Professor of Medicine, University of Iowa, Iowa City, IA, U.S.A.
1976—1981 Associate Professor of Medicine, Rush Medical College, Chicago, IL, U.S.A.
1981—1983 Professor of Medicine, Rush Medical College, Chicago, IL, U.S.A.
1983—2006 Professor of Medicine and Director, Division of Hematology/Oncology, University of Texas Health Science Center at Houston (UTHSC), TX, U.S.A.
1985—1991 Director, General Clinical Research Center, UTHSC, TX, U.S.A.
1988—2006 Director, Vascular Biology Research Center, UTHSC, TX, U.S.A.
1991—1992 Visiting Professor, William Harvey Research Institute, London, U.K.
1992—2006 Roy and Phyllis Gough Huffington Chair, UTHSC, TX, U.S.A.
1997—1999 Distinguished Fellow and Director, Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan
1998—1999 Program Director, Frontier in Genomic Medicine Research, National Science Council, Taiwan
2001—2006 Associate Director, Institute of Molecular Medicine, UTHSC, TX, U.S.A.
2004—2006 Professor, University of Texas, M.D. Anderson Cancer Center, Houston, U.S.A.
2006—Present Professor emeritus, University of Texas Health Science Center, Houston, U.S.A.
2006—present Distinguished Investigator and President, National Health Research Institutes, Zhunan, Taiwan
2007—present Distinguished Chair Professor, National Taiwan University College of Medicine, Taipei, Taiwan
2008—present Chair Professor, National Tsing-Hua University, College of Life Science, Hsin-Chu, Taiwan

Honors and Recognition

- 1977—1981 Member, Neurological Disease Review Committee A, NINCDS, NIH, U.S.A.
1982 Elected Member, American Society of Clinical Investigation, U.S.A.
1983—1987 Member, Hematology Study Section, NIH, U.S.A.
1988—1992 Member, NIH National Heart, Lung & Blood Institute Research Review Committee B, NIH, U.S.A.
1994 Elected as Academician, Academia Sinica, Taipei, Taiwan
1994 Proclamation of December 9, 1994 as Kenneth K. Wu, M.D. Day by Mayor Lanier of Houston, Texas, U.S.A.
1995—1998 Member, Advisory Council, NIH National Heart, Lung & Blood Institute, U.S.A.
1997 Elected Member, Association of American Physicians, U.S.A.
1997 SANOFI Prize, Sanofi Association for Thrombosis Research and International Society of Thrombosis and Haemostasis

2000 President's Scholar Award, UT-Houston Health Science Center, U.S.A.
2004 Elected Member, European Academy of Sciences
2010 Elected Fellow, The Academy of Sciences for the Developing World, TWAS

Hospital Affiliation and Board Certification

Medical Licence: Illinois, Iowa, Texas

Medical Board: American Board of Internal Medicine and Hematology Subspecialty Board

Hospitals: Iowa City, Iowa: University of Iowa Hospital and VA Hospital (Iowa City, IA); Rush-Presbyterian Medical Center (Chicago, IL); Herman-Memorial Hospital, LBJ General Hospital and M.D. Anderson Cancer Center (Houston, TX)

B. Selected peer-reviewed publications (Selected from over 300 peer-reviewed publications)

1. Wu, K.K., Hoak, J.C. (1974) A new method for the quantitative detection of platelet aggregates in patients with arterial insufficiency. *Lancet*, II: 924-926.
2. Wu, K.K. (1978) Platelet hyperaggregability and thrombosis in patients with thrombocytopenia. *Ann. Intern. Med.*, 88: 7-11.
3. Wu, K.K., Chen, Y.C., Fordham, E., Rayudu, G. (1981) Differential effects of two doses of aspirin on platelet-vessel wall interaction in vivo. *J. Clin. Invest.*, 68: 382-387.
4. Wu, K.K., Le Breton G.C., Tai, H.H., Chen, Y.C. (1981) Abnormal platelet response to thromboxane A₂. *J. Clin. Invest.*, 67: 1801-1804.
5. Wu, K.K., Hatzakis, H., Lo, S-S, Seong, D.C., Sanduja, S.K. (1988) Stimulation of de novo synthesis of prostaglandin G/H synthase in human endothelial cells by phorbol ester. *J. Biol. Chem.*, 263, 19043-19047.
6. Frasier-Scott, K., Hatzakis, H., Seong, D., Jones, C.M., Wu, K.K. (1988) Influence of natural and recombinant IL-2 on endothelial cell arachidonate metabolism: Induction of de novo synthesis of prostaglandin H synthase. *J. Clin. Invest.*, 82: 1877-1883, 1988.
7. Tsai, Ah-lim, Sanduja, R., Wu, K.K. (1990) Evidence for two pools of prostaglandin H synthase in human endothelial cells. *Adv. Prostagl. Thrombox. Leukotri.*, 21: 141-144.
8. Ohashi, K., Ruan, K-H, Kulmacz, R.J., Wu, K.K., Wang, L-H. (1992) Primary structure of human thromboxane synthase determined from the cDNA sequence. *J. Biol. Chem.*, 267: 789-793.
9. Xu, X-M, Ohashi, K., Sanduja, S.K., Ruan, K-H, Wang, L-H, Wu, K.K. (1993) Enhanced prostacyclin synthesis in endothelial cells by retrovirus-mediated transfer of prostaglandin H synthase cDNA. *J. Clin. Invest.*, 91: 1843-1849.
10. Nabulsi, A.A., Folsom, A.R., White, A., Patsch, W., Heiss, G., Wu, K.K., Szklo, M. (1993) Association of Hormone-Replacement Therapy with Various cardiovascular Risk Factors in Postmenopausal Women. *N. Eng. J. Med.*, 328: 1069-1075.
11. Chen, P-F, Tsai, A-L, Wu, K.K. (1994) Cysteine 184 of endothelial nitric oxide synthase is involved in heme coordination and catalytic activity. *J. Biol. Chem.*, 269: 25062-25066.
12. Ruan, K-H, Li, P., Kulmacz, R.J., Wu, K.K. (1994) Characterization of the structure and membrane interaction of NH₂-terminal domain of thromboxane A₂ synthase. *J. Biol. Chem.*, 269, 20938-20942.
13. Pereira, B., Wu, K.K. and Wang, L-H. (1994) Molecular cloning and characterization of bovine prostacyclin synthase. *Biochem. Biophys. Res. Comm.*, 203: 59-66.
14. Tazawa, R., Xu, X-M, Wu, K.K., Wang L-H. (1994) Characterization of the genomic structure, chromosomal location and promoter of human prostaglandin H synthase-2 gene. *Biochem. Biophys. Res. Comm.*, 203: 190-199.
15. Salomaa, V., Stinson, V., Kark, J.D., Folsom, A.R., Davis, C.E., Wu, K.K. (1995) Association of fibrinolytic parameters with early atherosclerosis. The ARIC Study. *Atherosclerosis Risk in Communities Study. Circulation*, 91: 284-290.
16. Zembowicz, A., Jones, S.L., Wu, K.K. (1995) Induction of cyclooxygenase-2 in human umbilical vein endothelial cells by lysophosphatidylcholine. *J. Clin. Invest.*, 96: 1688-1692.
17. Zembowicz, A., Tang, J-L., Wu, K.K. (1995) Transcriptional induction of endothelial nitric oxide synthase type-III by lysophosphatidylcholine. *J. Biol. Chem.*, 270: 17006-17010.
18. Chen, P-F., Tsai, A-L., Vladimir, B., Wu, K.K. (1996) Endothelial nitric-oxide synthase. Evidence for bidomain structure and successful reconstitution of catalytic activity from two separate domains generated by a baculovirus expression system. *J. Biol. Chem.*, 271: 14631-14635.
19. Zoldhelyi, P., McNatt, J., Xu, X-M., Loose-Mitchell, D., Meidell, R.S., Clubb, F.J., Buja, L.M., Willerson, J.T., Wu, K.K. (1996) Prevention of arterial thrombosis by adenovirus-mediated transfer of cyclooxygenase gene. *Circulation*, 93: 10-17.

20. Shyue, S-K., Ruan, K-H., Wang, L-H., Wu, K.K. (1997) Prostacyclin synthase active sites: identification by molecular modeling-guided site-directed mutagenesis. *J. Biol. Chem.* 272:3657-3662.
21. Chen, P-F., Tsai, A-L., Berka, V., Wu, K.K. (1997) Mutation of Glu-361 in human endothelial nitric oxide synthase selectively abolishes L-arginine binding without perturbing the behavior of heme and other redox centers. *J. Biol. Chem.*, 272, 6114-6118.
22. Folsom, A.R., Wu, K.K., Rosamond, W.D., Sharrett, A.R., Chambless, L.E. (1997) Prospective study of hemostatic factors and incidence of coronary heart disease: The Atherosclerosis Risk in Communities (ARIC) Study. *Circulation*, 96: 1102-1108.
23. Ghaddar, H.M., Folsom, A.R., Aleksic, N., Hearne, L.B., Chambless, L.E., Morrissey, J.H., Wu, K.K. (1998) Correlation of factor VIIa values with factor VII gene polymorphism, fasting and postprandial triglyceride levels, and subclinical carotid atherosclerosis. *Circulation*, 98: 2815-2821.
24. Godbey, W.T., Wu, K.K., Mikos, A.G. (1999) Tracking the intracellular path of poly(ethylenimine)/DNA complexes for gene delivery. *Proc. Natl. Acad. Sci. USA*, 96, 5177-5181.
25. Salomaa, V., Matei, C., Aleksic, N., Sansores, L., Folsom, A.R., Juneja, H., Chambless, L.E., Wu, K.K. (1999) Soluble thrombomodulin as a predictor of incident coronary heart disease: The ARIC Study. *Lancet*, 353: 1729-1734.
26. Xu, X-M., Sansores-Garcia, L., Chen, X-M., Matijevic-Aleksic, N., Du, M., Wu, K.K. (1999) Suppression of inducible cyclooxygenase-2 gene transcription by aspirin and sodium salicylate. *Proc. Natl. Acad. Sci. USA*, 96: 5292-5297.
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29. Aleksic, N., Juneja, H., Folsom, A.R., Ahn, C., Boerwinkle, E., Chambless, L.E., Wu, K.K. (2000) Platelet PLA2 allele and incidence of coronary heart disease: results from the Atherosclerosis Risk In Communities (ARIC) Study. *Circulation*, 102: 1901-1905.
30. Liou, J-Y. Shyue, S-K., Tsai, M.J., Chung, C.L., Chu, K.Y., Wu, K.K. (2000) Colocalization of prostacyclin synthase with prostaglandin H synthase-1 (PGHS-1) but not phorbol ester-induced PGHS-2 in cultured endothelial cells. *J. Biol. Chem.*, 275: 15314-15320.
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39. Schroer, K., Zhu, Y., Saunders, M.A., Deng, W-G., Xu, X-M., Meyer-Kirchrath, J., Wu, K.K. (2002) The obligatory role of cyclic AMP response element in cyclooxygenase-2 promoter induction and feedback regulation by inflammatory mediators. *Circulation*, 105: 2760-2765.
40. Deng, W-G., Zhu, Y., Wu, K.K. (2003) Upregulation of p300 binding and p50 acetylation in tumor necrosis factor- α induced cyclooxygenase-2 promoter activation. *J. Biol. Chem.*, 278: 4770-4777.
41. Deng, W-G., Zhu, Y., Montero, A., Wu, K.K. (2003) Quantitative analysis of binding of transcription factor complex to biotinylated DNA probe by a streptavidin-agarose pulldown assay. *Anal. Biochem.*, 323: 12-18.

42. Deng, W-G., Wu, K.K. (2003) Regulation of inducible nitric oxide synthase expression by p300 and p50 acetylation. *J. Immunology*, 171: 6581-6588.
43. Huang, J-C., Wun, W-S.A., Goldsby, J.S., Matijevic-Aleksic, N., Wu, K.K. (2004) Cyclooxygenase-2-derived endogenous prostacyclin enhances mouse embryo hatching. *Hum. Reprod.*, 19:2900-2906.
44. Huang, J-C., Goldsby, J.S., Arbab, F., Melhem, Z., Aleksic, N., Wu, K.K. (2004) Oviduct prostacyclin functions as a paracrine factor to augment the development of embryos. *Hum. Reprod.*, 19: 2907-2912.
45. Yu, I-S., Lin, S-R., Huang, C-C., Tseng, H-Y., Huang, P-H., Shi, G-Y., Wu, H-L., Tang, C-L., Chu, P-H., Wang, L-H., Wu, K.K., Lin, S-W. (2004) TXAS-deleted mice exhibit normal thrombopoiesis, defective hemostasis and resistance to arachidonate-induced death. *Blood*, 104: 135-142.
46. Deng, W-G., Zhu, Y., Wu, K.K. (2004) Role of p300 and PCAF in regulating cyclooxygenase-2 promoter activation by inflammatory mediators. *Blood*, 103: 2135-2142.
47. Cieslik, K., Zhu, Y., Shtivelband, M., Wu, K.K. (2005) Inhibition of p90 ribosomal S6 kinase-mediated C/EBPbeta activation and COX-2 expression by salicylate. *J. Biol. Chem.*, 280: 18411-18417.
48. Deng, W-G., Tang, S-T., Tseng, H-P., Wu, K.K. (2006) Melatonin suppresses macrophage cyclooxygenase-2 and inducible nitric oxide synthase expression by inhibiting p52 acetylation and binding. *Blood*, 108:518-524.
49. Liou, J-Y., Lee, S., Ghelani, D., Matijevic-Aleksic, N., Wu, K.K. (2006) Protection of endothelial survival by peroxisome proliferator-activated receptor- δ mediated 14-3-3 upregulation. *Arterioscler. Thromb. Vasc. Biol.*, 26:1481-1487.
50. Lin, T-N., Cheung, W-M., Wu, J-S., Chen, J-J., Lin, H., Chen, J-J., Liou, J-Y., Shyue, S-K., Wu, K.K. (2006) 15d-Prostaglandin J2 Protects Brain From Ischemia-Reperfusion Injury. *Arterioscler. Thromb. Vasc. Biol.*, 26:481-487.
51. Deng, W.G., Montero, A.J., Wu, K.K. (2007) Interferon- γ Suppresses Cyclooxygenase-2 Promoter Activity by Inhibiting C-Jun and C/EBP β Binding. *Arterioscler Thromb Vasc Biol.*, 27: 1752-1759.
52. Ashton, A.W., Mukherjee, S., Nagajyothi, F.N., Huang, H., Braunstein, V.L., Desruisseaux, M.S., Factor, S.M., Lopez, L., Berman, J.W., Wittner, M., Scherer, P.E., Capra, V., Coffman, T.M., Serhan, C.N., Gotlinger, K., Wu, K.K., Weiss, L.M., Tanowitz, H.B. (2007) Thromboxane A2 is a key regulator of pathogenesis during *Trypanosoma cruzi* infection. *J Exp Med.*, 204: 929-940.
53. Liou, J.Y., Ellent, D.P., Lee, S., Goldsby, J., Ko, B.S., Matijevic, N., Huang, J.C., Wu, K.K. (2007) Cyclooxygenase-2 Derived PGE2 Protects Mouse Embryonic Stem Cells from Apoptosis. *Stem Cells*, 25: 1096-1103.
54. Wu, J.S., Cheung, W.M., Tsai, Y.S., Chen, Y.T., Fong, W.H., Tsai, H.D., Chen, Y.C., Liou, J.Y., Shyue, S.K., Chen, J.J., Chen, Y.E., Maeda, N., Wu, K.K., Lin, T.N. (2009) Ligand-activated PPAR- γ protects against ischemic cerebral infarction and neuronal apoptosis by 14-3-3 ϵ upregulation. *Circulation*, 119: 1124-1134.
55. Campos, M., Sun, W., Yu, F., Barbalic, M., Tang, W., Chambless, L.E., Wu, K.K., Ballantyne, C., Folsom, A.R., Boerwinkle, E., Dong, J.F. (2011) Genetic determinants of plasma von Willebrand factor antigen levels: a target gene SNP and haplotype analysis of ARIC cohort. *Blood*. 117:5224-5230.
56. Wu, K.K.* (2012) TM hidden treasure: lectin-like domain. *Blood*. 119:1103-1104.
57. Campos, M., Buchanan, A., Yu, F., Barbalic, M., Xiao, Y., Chambless, L.E., Wu, K.K., Folsom, A.R., Boerwinkle, E., Dong, J.F. (2012) Influence of single nucleotide polymorphisms in factor VIII and von Willebrand factor genes on plasma factor VIII activity: the ARIC Study. *Blood*. 119:1929-1934.

C. Research Support

U.S. NIH Grants

P50 NS23327 Wu (PI) 3/1/85 - 2/28/05, NIH/NINDS (annual budget: ~1.5 million USD)

“Prostaglandins in Cerebrovascular Research”

R01 HL50675 Wu (PI) 5/1/99 - 4/30/07, NIH/NHLBI (annual budget: ~350,000 USD)

“Molecular Aspects of Arachidonate Metabolism in Blood Cells”

N01HC55022 Wu (PI) 9/1/85 - 12/31/07, NIH/NHLBI (annual budget: ~500,000 USD)

“Atherosclerosis Risk in Communities,” Central Hemostasis Laboratory

U01 HL75572-01 Wu (PI) 9/15/04-6/30/07, NIH/NHLBI \$1,573,822

“Blood Cellular Markers of Atheromatous Plaque”

Taiwan Grants

Wu (PI) 11/1/07-9/30/11, National Science Council

“Stem Cell Flagship Center Grant”