

BIOGRAPHICAL SKETCH

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NAME David D. Ku	POSITION TITLE Professor		
eRA COMMONS USER NAME DavidDKu			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Whittier College, Whittier, CA	B.A.	1972	Chemistry
Michigan State University, E. Lansing, MI	Ph.D.	1976	CV Pharmacology
University of Michigan, Ann Arbor, MI	Post-doc	1977	CV Pharmacology

Please refer to the application instructions in order to complete sections A, B, and C of the Biographical Sketch.

Positions

- 1994 - present Professor, Department of Pharmacology & Toxicol., UAB, Birmingham, AL
1997 - 2001 Director of Administration and Fiscal Affairs of the Center for NMR R&D, UAB, AL
1996 - 2002 Vice-Chair, Department of Pharmacology & Toxicology, UAB, Birmingham, AL
1984 - 1994 Associate Professor, Department of Pharmacology & Toxicology, UAB, Birmingham, AL
1978 - 1984 Assistant Professor, Department of Pharmacology, UAB, Birmingham, AL
1977 - 1978 Senior Scientist, Department of Pharmacology, Hoffman La-Roche, Inc., Nutley, NJ

Honors

- American Institute of Chemist Award, 1972
NIH Young Investigator Research Award, 1979-1982
NIH (HLBI) Research Career Development Award, 1984-1989
2002 - 2004 Chair, Div. Of CV Pharmacology, Am. Soc. for Pharmacology and Experimental Therapeutics
1983 - present American Society for Pharmacology and Experimental Therapeutics
1987 - present American Physiological Society (Fellow of CV Physiology, 2002 -)
2001 - present Fellow of the American Heart Association (FAHA)
1988 - 2007 Member of the Scientific Review Committee for the National Heart Foundation of the American Health Assistance Foundation
2007 - present Member of the Cardiovascular Studies A Study Section of the VA Merit Review.

Publications (Selection of 75 full-length manuscripts only, excluding 130 abstracts)

- Ku, D.D. Coronary Vascular Reactivity after Acute Myocardial Ischemia. *Science* 218:576-578, 1982.
Ku, D.D. Mechanism of Thrombin-induced Endothelium-dependent Coronary Vasodilation in Dogs. Role of its Proteolytic Enzymatic Activity. *J. Cardiovasc.Pharmacol.* 8:29-36,1986.
Ku, D.D. and Ann, H.S. Magnesium Deficiency Produces Endothelium-dependent Vasorelaxation in Canine Coronary Arteries. *J. Pharmacol. Exp. Ther.* 241:961-966,1987.
Ku, D.D. Unmasking of Thrombin Vasoconstriction in Isolated Perfused Dog Hearts After Intracoronary Infusion of Air Embolus. *J. Pharmacol. Exp. Ther.* 243:571-576, 1987.
Ku, D.D. Divalent Cation Regulation of Endothelial-dependent Relaxation in Coronary Blood Vessels. *Microcirc. Endoth. Lymphatics*, 5:99-120, 1989.

- Ku, D. D., Nelson, J.M., Caulfield, J.B. and Winn, M.J. Release of endothelium-derived relaxing factors from canine cardiac valves. *J. Cardiovasc. Pharmacol.* 16:212-218, 1990.
- Ku, D.D. and Caulfield, J.B. Transplantation-induced alterations in coronary vascular and endothelium-dependent responses in human hearts. *Europ. J. Pharmacol.* 183: 2114, 1990.
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- Winn, M.J., Ku, D.D. and Nelson, J.M. Inhibition of thrombin-induced endothelium-dependent relaxation after coronary ischemia in the dog: possible role of the coagulation cascade. *J. Cardio. Pharm.* 18:68-76, 1991.
- Ku, D.D., Winn, M.J., Grigsby, T., and Caulfield, J.B. Human coronary vascular smooth muscle and endothelium-dependent responses after storage at -75°C. *Cryobiology* 29:199-209, 1992.
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- Ku, D.D., Zaleski, J.K., Liu, S. and Brock, T.A. Vascular endothelial growth factor induces EDRF dependent relaxation in coronary arteries. *Amer. J. Physiol.* 34(2): H586-592, 1993.
- Ku, D.D. and Zaleski, J.K. Receptor mechanism of thrombin-induced endothelium-dependent and – independent coronary vascular effects in dogs. *J. Cardiovasc. Pharmacol.* 22:609-616, 1993.
- Ku, D.D., Liu, Q., Norton, P. and Caulfield, J.B. Cryopreservation of coronary endothelium and endothelial-mediated responses. *Cryobiology* 31:82-89, 1994.
- White, C.R., Brock, T.A., Chang, L-Y, Crapo, J., Briscoe, P., Ku, D.D., Bradley, W.A., Gianturco, S.H., Gore, J., Freeman, B.A. and Tarpey, M.M. Superoxide and Peroxynitrite in Atherosclerosis. *Proc. Natl. Acad. Sci.* 91:1044-1048, 1994.
- Liu, S., Beckman, J.S. and Ku, D. D. Peroxynitrite, a product of superoxide and nitric oxide, produces coronary vasorelaxation in dogs. *J. Pharmacol. Exp. Ther.* 268:1114-1121, 1994.
- Ku, D.D., Liu, S. and Dai, J. Coronary Vascular and Antiplatelet Effects of Peroxynitrite in Human Tissues. *Endothelium* 3:309-319, 1995.
- Straeter-Knowlen, I.M., Evanochko, W.T., den Hollander, J.A., Wolkowicz, P.E., Balschi, J.A., Caulfield, J.B., Ku, D.D., and Pohost, G.M. 1H NMR spectroscopic imaging of myocardial triglycerides in excised dog hearts subjected to 24 hrs of coronary occlusion. *Circulation.* 93: 1464-1470, 1996.
- Ku, D.D., Guo, L., Dai, J., Acuff, C.G. and Steinhilper, M.E. Coronary vascular and endothelial reactivity changes in transgenic mice overexpressing atrial natriuretic factor. *Am. J. Physiol.* 271: H2368-H2376, 1996.
- Ku, D.D. Nitric oxide and nitric oxide donors induced relaxation. *Methods in Enzymology*, vol. 269, chapter 10, ed. Lester Packer, pp 107 119, 1996.
- Chilian, W.M., Bassingthwaite, J.B., Cannon, R.O., Curry, F-R E., Davis, M.J., Dellsperger, K.C., Duling, B.R., Fuster, V., Gerritsen, M.E., Hoffman, J.I.E., Kajiya, F., Ku, D.D., Lamping, K.G., Laughlin, M.H., Ritman, E.L., Taylor, A.E., Small, A., Coronary Microcirculation in Health and Disease. Summary of an NHLBI Workshop. *Circulation* 95: 522 528, 1997.
- Ku, D.D. and Dai, J. Expression of thrombin receptors in human atherosclerotic coronary arteries leads to an exaggerated vasoconstrictory response in vitro. *J. Cardiovasc. Pharmacol.* 30: 649-657, 1997.
- Fallon, M.B., Abrams, G.A., Luo, B., Hou, Z., Dai, J. and Ku, D.D. The role of endothelial nitric oxide synthase in the pathogenesis of a rat model of hepatopulmonary syndrome. *Gastroenterology*, 113:606-614, 1997.
- Fallon, M.D., Abrams, G.A., Abdel-Razek, T.T., Dai, J., Chen, S.J., Chen, Y.F., Luo, B., Oparil, S. and Ku, D.D. Garlic prevents hypoxic pulmonary hypertension in rats. *Am. J. Physiol.* 275: L283-L287, 1998.
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- Kim-Park, S., Ku, D.D. Garlic elicits a nitric oxide-dependent relaxation and inhibits hypoxic pulmonary

- vasoconstriction in rats. *Clin. Exp. Pharmacol. Physiol.* 27:780-786, 2000.
- Ku, D.D., Abdel-Razek, T.T., Dai, J. Kim-Park, S., Fallon, M.B. and Abrams, G.A. Garlic and its active metabolite allicin produce endothelium- and nitric oxide-dependent relaxation in rat pulmonary arteries. *Clin. Exp. Pharmacol. Physiol.* 29:84-91, 2002.
- Wolkowicz, P.E., Ku, D.D. Grenett H.E., and Urthaler F. Occupation of the protstaglanding E₂-type 1 receptor increases rat atrial contractility via a Y-27632-sensitive pathway. *Prostaglandin & Other Lipid Mediators.* 70:91-105, 2002.
- Ling, Y., Zhang, J., Luo, B., Song, D., Liu, L., Tang, L., Stockard, C.R., Grizzle, W.E., Ku, D.D. and Fallon, M.B. The role of endothelin-1 and the endothelin B receptor in the pathogenesis of hepatopulmonary syndrome in the rat. *Hepatology* 39(6):1593-602, 2004.
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- Sun X, Ku DD. Selective right, but not left, coronary endothelial dysfunction precedes development of pulmonary hypertension and right heart hypertrophy in rats. *Am J Physiol Heart Circ Physiol.* 290(2):H758-64, 2006. [Epub 2005 Sep 19]
- Shi Y, Ku, DD, Man, RYK and Vanhoutte PM, Augmented endothelium-derived hyperpolarizing factor-Mediated relaxations attenuate endothelial dysfunction in femoral and mesenteric, but not in carotid arteries from type I diabetic rats. *J. Pharmacol. Exp. Ther.* 318(1):276-81, 2006. [Epub 2006, Mar 24]
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