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Education and Training

Undergraduate Degree: B.S. Chemistry, Southern Nazarene University, 1973

Graduate Degree: Ph.D. Biochemistry, University of Kansas, 1978

Postdoctoral Fellowship: University of Notre Dame, 1978 - 1981

Biosketch

Dr. Strickland's laboratory was one of two laboratories to identify the LDL receptor related protein (LRP1) as an hepatic receptor involved in the removal of protease-inhibitor complexes (α_2 M-protease or serpin-protease). While identifying LRP1, the Strickland laboratory also discovered the 39 kDa Receptor Associated Protein (RAP), a molecular chaperone for this receptor family. We now know that LRP1 is an efficient endocytic and signaling receptor that is widely expressed in the vasculature, in neurons and in inflammatory cells such as macrophages. Ongoing projects in the Strickland laboratory include investigating the role of LRP1 in regulating thrombosis, cell migration, proliferation and signaling events, ultimately altering the pathology of certain diseases such as vascular remodeling, atherosclerosis, and vessel wall pathology.

Research/Clinical Keywords

Lipoprotein receptors, vascular disease, thrombosis, atherosclerosis, aneurysms, Alzheimer's disease

Highlighted Publications

Ashcom, J.D., Tiller, S.E., Dickerson, K., Cravens, J.L., Argraves, S.W., and Strickland, D.K. (1990) The Human α_2 -macroglobulin receptor: Identification of a 420 kDa cell surface glycoprotein specific for the proteolyzed conformation of α_2 -macroglobulin. *J. Cell Biol.*, 110, 1041-1048

Strickland, D.K., Ashcom, J.D., Williams, S., Burgess, W.H., Migliorini, M., and Argraves, W.S. (1990) Sequence identity between the α_2 -macroglobulin receptor and low density lipoprotein receptor-related protein suggests that this molecule is a multifunctional receptor. *J. Biol. Chem.*, 265, 704-17404.

Herz, J., Goldstein, J.L., Strickland, D.K., Ho, Y.K., and Brown, M.S. (1991) 39 kDa protein modulates binding of ligand to low density lipoprotein-related protein/ α_2 -macroglobulin receptor. *J. Biol. Chem.*, 266, 21232-21238

Lee, D., Walsh, J.D., Mikhailenko, I., Yu, P., Migliorini, M., Wu, Y., Krueger, S., Curtis, J.E., Harris, B., Lockett, S., Strickland, D.K*, and Wang, Y-X*. (2006) The Receptor Associated Protein Uses a Histidine Switch to Modulate its Interaction with the LDL Receptor Related Protein (LRP) in the ER and Golgi *Molecular Cell* 22, 423-430 (*corresponding authors)

Kounnas, M.Z., Moir, R.D., Rebeck, G.W., Bush, A.I., Argraves, W.S., Tanzi, R.E., Hyman, B.T., and Strickland, D.K. (1995) LDL receptor related protein, a multifunctional apoE receptor, binds secreted β -amyloid precursor protein and mediates its degradation. *Cell*, 82, 331-340

Muratoglu, SC, Belgrave, S., Hampton, B., Migkiorini, M., Clksaygan, T., Chen, L., Mikhailenko, I and Strickland, DK. (2013). LRP1 protects the vasculature by regulating levels of Connective Tissue Growth Factor and HtrA1. *Arterioscler Thromb Vas Biol* 33:2137-46

Prasad, J.M., Young, P.A. and Strickland, D.K. (2016) High affinity binding of the receptor-associated protein D1D2 domains with LRP1 involves bivalent complex formation: Critical roles of lysines 60 and 191. *J. Biol. Chem.*, 291, 18430-9

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