

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Smyth, Susan S.		POSITION TITLE Associate Professor of Internal Medicine, Physiology, and Pharmacology	
eRA COMMONS USER NAME SUSAN_SMYTH			
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>	YEAR(s)	FIELD OF STUDY
Mount Holyoke College, S Hadley, MA	AB	1987	Biological Sciences
University of North Carolina, Chapel Hill, NC	PhD	1992	Pharmacology
University of North Carolina, Chapel Hill, NC	MD	1994	Medicine

A. Positions and Honors**Professional Experience**

1994-1997 Resident, Internal Medicine, University Medical Center, Stony Brook, NY
 1997-1998 Chief Resident, Internal Medicine, University Medical Center, Stony Brook, NY
 1998-2001 Fellow, Cardiology Research, Mount Sinai School of Medicine, NY, NY
 2001-2005 Assistant Professor, Department of Medicine, UNC-Chapel Hill, NC
 2003-2005 Assistant Professor, Cell & Molecular Physiology, UNC-Chapel Hill, NC
 2006- Associate Professor, Departments of Medicine and Physiology, University of Kentucky
 2006- Adjunct Associate Professor, Cell & Molecular Physiology, UNC-Chapel Hill, NC
 2007- Associate Professor of Pharmacology, University of Kentucky, Lexington, KY
 2008- Director, MD-PhD Program, University of Kentucky

Other Experience and Professional Memberships

2000- Ad hoc reviewer (selected): AJP-Heart Circ, AHJ; BBA; Blood; Circulation; Circulation Research, Journal of Cell Biology; JBC, JTH; PNAS, Thrombosis and Haemostasis
 2005- Editorial Panel: Clinical Science
 2003- Temporary Member: CICS, CCVS, VCMB, TH Study Sections, NIH
 2004-2007 Co-Chair, Vascular Biology 2 Study Section, American Heart Association
 2005-2009 Member, NIH/NHLBI Parent Program Project Review Committee
 2006 NHLBI Strategic Planning Group on Inflammation in Ischemic Vascular Disorders
 2006-2011 Member, American Society of Hematology, Scientific Committee on Vascular Wall Biology and Thrombosis
 2007- Editorial Board, Arteriosclerosis, Thrombosis and Vascular Biology
 2008- Co-Chair, Arteriosclerosis, Thrombosis and Vascular Biology Annual Meeting
 2008-2009 Chair, Vascular Biology Study Section, Region 1, American Heart Association
 2008-2009 Chair, NIH/NHLBI Parent Program Project Review Committee

Medical License History

American Board of Internal Medicine, Cardiovascular Disease
 American Board of Internal Medicine, Internal Medicine
 NY, NC, KY State Medical License

Honors

2000 Faculty Scholar Award, American Society of Hematology
 2002 Medical Alumni Endowment Award, UNC-Chapel Hill.
 2003 Faculty Development Award, UNC-Chapel Hill.
 2003 American Heart Association Young Investigator Prize in Thrombosis, finalist
 2004 Pfizer Physician-Scientist Atorvastatin Research Award
 2008 Special Recognition Award in Thrombosis, ATVB Council, American Heart Association
 2009 Stewart-Niewiarowski Award for Women in Vascular Biology
 2009 Member, American Society for Clinical Investigation

B. Selected Publications (in chronological order from over 50).

1. Peerschke, E.I.B., Smyth S.S., Teng, E.I., Dalzell, M., and Ghebrehiwet, B. Human umbilical vein endothelial cells possess binding sites for the globular domain of C1q. (1996) *J. Immunology*, 157:4154-4158.
2. Lengweiler, S., Smyth, S.S., Jirouskova, M., Scudder, L.E., Moran, T., and Collier, B.S. Preparation of monoclonal antibodies to murine platelet glycoprotein IIb/IIIa (α IIb β 3) and other platelet proteins from hamster-mouse interspecies hybridomas. (1999) *Biochemical Biophysical Research Communications*, 262:167-173.
3. Smyth, S.S., Tsakiris, D.A., Scudder, L.E., and Collier, B.S. Structure and function of murine α IIb β 3 (GPIIb/IIIa): studies using monoclonal antibodies and β 3-null mice. (2000) *Thrombosis and Haemostasis*, 84:1103-1108.
4. Smyth, S. S., Reis, E.D, Zhang, W., Fallon, J.T., Gordon, R.E., and Collier, B.S. β 3-Integrin-deficient mice, but not P-selectin-deficient mice, develop intimal hyperplasia after vascular injury: correlation with leukocyte recruitment to adherent platelets one hour post injury. (2001) *Circulation*, 103:2501-2507.
5. Smyth, S. S., Reis, E.D, Vaananen, H., Zhang, W., Scudder, L.E., and Collier, B.S. Variable protection of β 3-integrin-deficient mice from thrombosis initiated by different mechanisms. (2001) *Blood* 98:1055-1062.
6. Zhang Z.G., Zhang L., Wayne T., Goussev A., Powers C, Ho K, Morris D., Smyth S. S., Collier B.S., and Chopp M. Dynamic platelet accumulation at the site of the occluded middle cerebral artery and in downstream microvessels is associated with loss of microvascular integrity after embolic middle cerebral artery occlusion. (2001) *Brain Research*. 912:181-194.
7. Jiroušková, M., Smyth, S. S., and Collier, B.S. A hamster monoclonal antibody to the C-terminus of the mouse fibrinogen γ chain inhibits platelet-fibrinogen interactions and factor XIIIa-mediated fibrin crosslinking, and facilitates thrombolysis. (2001) *Thrombosis and Haemostasis*, 86:1047-1056.
8. Palmerini, T., Nedelmas, M., Scudder, L., Nakada, M., Jordan R., Smyth, S. Gulle V., Gordon, R., Fallon, J., Krueger, L., Michelson, A., Collier, B. Effects of abciximab on the acute pathology of blood vessels after arterial stenting in nonhuman primates. (2002) *J American College of Cardiology*, 40:360-366.
9. Smyth S.S. and Patterson C. Tiny dancers: the integrin: growth factor nexus in angiogenic signaling. (2002) *J Cell Biol.* 158:17-21
10. Smyth, S.S., Pathak, A., and Stouffer, G.A. In-stent restenosis. More fuel for the fire. (2002) *American Heart Journal*, 144:577-579.
11. Evangelista V., Manarini S., Collier B.S., Smyth S.S. Role of P-selectin, β 2 integrins, and src tyrosine kinases in mouse neutrophil-platelet adhesion. (2003) *J Thrombosis and Haemostasis*, 1:1048-1054.
12. Smyth, S.S. Tweezing apart von Willebrand Factor-glycoprotein Ib/IX adhesive signaling. (2003) *J Thrombosis and Haemostasis*, 1:1136-1137.
13. Smyth S.S. and Stouffer G.A. Integrin signals in thrombin-stimulated vascular cells. (2003) *Arterioscler Thromb Vasc Biol.*, 23 1971-1978
14. Sajid M., Zhao R., Pathak A., Smyth S.S., and Stouffer G.A. α V β 3 integrin antagonists inhibit thrombin-induced proliferation and JNK1 activation in smooth muscle cells. (2003) *AJP-Cell Physiology*, 285:C1330-C1338
15. Smyth S.S., Sigal Y., Pamuklar, Z. Sciorra V., Yong Xu, Prestwich G.D., and Morris, A.J. Lysophosphatidic acid phosphatase 1 regulates lysophosphatidic acid signaling in human platelets. (2003) *J Biol Chem*, 278:43214-43223
16. Chrzanowska-Wodnicka M., Smyth S.S., Schoenwaelder S., and White GC. Rap1b is required for normal platelet function in mice (2005) *J Clinical Investigation*, 115:680-687.
17. Smyth, S.S., and Jennings J.L. PPAR γ agonists: a new strategy for anti-thrombotic therapy (2005) *J Thrombosis and Haemostasis*, 3:2147-2148.
18. Totani L., Piccoli A., Manarini S., Martelli N., Pecce R., Federico, Cerletti C, Piccardoni P., Smyth SS, Berton G, Evangelista V. Src kinase activity is necessary for β 2-integrin activation and firm adhesion of neutrophils tethered on E-selectin. (2006) *Biochemical J* 396:89-98.
19. Liu P, Patil S., Rojas M, Fong A., Smyth S.S., and Patel D.D. CX3CR1 is essential for the development of intimal hyperplasia in mice. (2006) *Arterioscler Thromb Vasc Biol* epub June 29.
20. Lee JS, Dunn S, Marshall H, Cohen MR, and Smyth SS. Simultaneous thrombosis of two coronary artery stents in association with clopidogrel resistance. (2006) *Clinical Cardiology*, 30:200-203.

21. Barrick CJ, Rojas M, Choonhoven R, Smyth SS, and Treadgill DW. Cardiac response to pressure overload in 129S1/SvImJ and C57BL/6J mice: temporal and background dependent development of concentric left ventricular hypertrophy. (2006) *Am J Physiol Heart Circ Physiol*. 292: H2119-30.
22. Matsuo O, Linjen HR, Ueshima S., Kojima S, Smyth SS, A guide to murine fibrinolytic factor structure, function, assays, and genetic alterations. (2007) *J Thrombosis and Haemostasis*, 5: 680-9
23. Emeis JJ, Jirouskova M, Muchitsch EM, Shet A, Smyth SS, Johnson GL. A guide to murine coagulation factor structure, function, assays, and genetic alterations. (2007) *J Thrombosis and Haemostasis*, 5: 670-9.
24. Evangelista V, Pamuklar Z, Totani L., Rojas MR, Federico L, and Smyth SS. Src kinase activity is required to sustain neutrophil interactions with adherent platelets (2007) *Blood* 109(6):2461-9..
25. Li G, Keenan AC, Young J, Hall M, Pamuklar Z, Ohman EM, Steinhubl SR, and Smyth SS,. Effects of heparin and glycoprotein IIb/IIIa antagonists versus bilavirudin on myeloperoxidase release from neutrophils: a translational investigation. (2007) *Arterioscler Thromb Vasc Biol*, May 24; [Epub ahead of print].
26. Dorsch M, Lee JS, Lynch D, Dunn S, Rodgers J, Montague D, and Smyth SS. Aspirin Resistance in Patients With Stable Coronary Artery Disease with and without a History of Myocardial Infarction (2007) *Annals of Pharmacotherapy*, 41:737-41.
27. Campbell CL, Smyth SS, Montalescott G, and Steinhubl S. What is the correct dose of aspirin for cardiovascular disease prevention ? (2007) *JAMA*, 297: 2018-24.
28. Rojas M, Stansfield B, Corn D, Willis M, Patterson C, Smyth S.S., and Selzman C. Characterization of a novel model to independently study regression of left ventricular hypertrophy. (2007) *J Vascular Surgery*
29. Morris AJ and Smyth SS. Measurement of Autotaxin/Lysophospholipase D Activity. (2007) *Methods in Enzymology*, vol 434 (Lipidomics and Bioactive Lipids:Lipids and Cell Signaling) pp89-104.
30. Smyth SS, Monroe DM, Wysokinski WE, McBane RD, Whiteheart SW, Becker RC, Steinhubl SR. Platelet activation and its patient-specific consequences. (2008) *Thrombosis Research*, 122:435-41.
31. Pamuklar Z, Lee, JS, Cheng HY, Pantcharam M. Charnigo R, Steinhubl S, Morris AJ, Smyth SS. Individual heterogeneity in platelet response to lysophosphatidic acid: Evidence for a novel inhibitory platelet pathway. (2008) *Arterioscler Thromb Vasc Biol*, 28: 555-561
32. Federico L, Pamuklar Z, Smyth SS, Morris AJ. Therapeutic potential of autotoxin/lysophospholipase D inhibitors. (2008) *Current Drug Targets*, 9:698-708.
33. Smyth SS, Cheng HY, Miriyala S, Panchatcharam M, Morris AJ. Roles of Lysophosphatidic Acid in Cardiovascular Physiology and Disease. (2008) *Biochim Biophys Acta*, 563-570.
34. Panchatcharam M, Miriyala S, Yan F, End C, Vallant C, Dong A, Lynch K, Chin J, Morris AJ, Smyth SS. Lysophosphatidic acid receptors 1 and 2 regulate vascular smooth muscle cell responses to injury but not acute LPA-mediated increases in blood pressure. (2008) *Circulation Research* 103:662-70.
35. Fulkerson Z, Morris AJ, Smyth SS. Interactions of lysophospholipids with platelets. *International Review of Thrombosis* (2008), 3:26 - 33.
36. Smyth SS, Woulfe DS, Weitz JI, Gachet C, Conley PB, Goodman SG, Roe MT, Kuliopulos A, Moliterno DJ, French PA, Steinhubl SR, Becker RC. Cell Surface Signaling Targets for Antiplatelet Therapy (2008) *Arterioscler Thromb Vasc Biol*, 29:449-457
37. Pamuklar Z, Federico L, Liu S, Goto M, Dong A, Panchatcharam M, Fulkerson Z, Berdyshev E, Natarajan V, Fang F, Mills GB, Morris AJ, and Smyth SS. Autotaxin/lysophospholipase D and lysophosphatidic acid regulate thrombosis and hemostasis in mice. (2009) *Journal of Biological Chemistry*, 284:7385-7394
38. Oestreich JH, Smyth SS, Campbell CL. Platelet Function Analysis: at the edge of meaning. (2009) *Thrombosis and Haemostasis*. 101:217-9
39. Mackman N, Smyth S. Cardiovascular disease in women. (2009) *Arterioscler Thromb Vasc Biol* 29:277-8.
40. Bailey A, Scantlebury D, Smyth SS. (2009) Thrombosis and anti-thrombotic therapy in women. *Arterioscler Thromb Vasc Biol*, in press
41. Oestreich JH, Holt J, Dunn SP, Smyth SS, Campbell CL, Charnigo R, Akers WS, Steinhubl SR. Considerable variability in platelet activity among patients with coronary artery disease in response to an increased maintenance dose of clopidogrel (2009). *Coronary Artery Disease*, in press.

42. Meredith D, Panchatcharam M, Miriyala S, Tsai YS, Morris AJ, Maeda N, Stouffer GS, and Smyth SS. Dominant-negative loss of PPAR γ function enhances smooth muscle cell proliferation, migration, and vascular remodeling. (2009) *Arterioscler Thromb Vasc Biol.* 29:465- 471.
43. Morris AJ, Panchatcharam M, Cheng HY, Federico L, Fulkerson Z, Selim S, Escalante-Acalde D, and Smyth SS. Regulation of vascular cell function by bioactive Lysophospholipids. (2009) *J Thromb Haemostasis*, in press.
44. Becjer RB and Smyth SS. The evolution of platelet-directed therapy. (2009) *J Thromb Haemostasis*, in press.