

# CURRICULUM VITAE

July 1, 2009

## Andrew Lawrence Frelinger III

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### Education:

5/1975      B.S.    Biology      San Diego State University, San Diego, CA  
5/1984      Ph.D.   Biology      Case Western Reserve University, Cleveland, OH  
(Thesis advisor: James E. Zull)

### Postdoctoral Training:

1984-1986:    Postdoctoral Fellow, Neurobiology, Case Western Reserve Univ. School of Medicine,  
(Lab PI: Urs Rutishauser, PhD)  
1986-1989:    Postdoctoral Fellow, Cell Biology, Department of Immunology, The Scripps Research  
Institute, La Jolla, CA, (Lab PI, Mark Ginsberg, MD)

### Certification:

2005:      CITI Course in The Protection of Human Research Subjects, completed 5/2/2005  
2008:      Environmental Health and Safety, Certificate #20-61-08, 11/26/2008 UMass Medical School  
2008:      Public Health Service Policy on Humane Care and Use of Laboratory Animals, AALAS  
Learning Library, Exam # 159511, 12/10/2008  
2008:      Introduction to Rats, AALAS Learning Library, Exam # 1595167, 12/10/2008  
2009:      CITI Course in The Protection of Human Research Subjects CITI Collaborative Institutional  
Training Initiative, Human Research Curriculum, Refresher Course, completed 3/11/2009

### Faculty Academic Appointments:

1989 – 1990:    Senior Research Associate, Committee on Vascular Biology, The Scripps Research  
Institute, La Jolla, CA  
May 1998 – May 2009:  
Research Associate Professor of Pediatrics and Molecular Biology & Microbiology,  
University of Massachusetts Medical School, Worcester, Massachusetts  
1998 – May 2009:  
Associate Director, Center for Platelet Function Studies, University of Massachusetts  
Medical School

May 2009 – present:

Adjunct Research Associate Professor of Pediatrics, University of Massachusetts Medical School, Worcester, Massachusetts

May 2009 – present:

Research Associate, Division of Hematology/Oncology, Department of Medicine, Children's Hospital Boston

May 2009 – present:

Associate Director, Center for Platelet Research Studies, Children's Hospital Boston

**Other Professional Positions:**

1990 – 1993: Scientist II, Thrombosis and Hemostasis, Biogen, Inc., Cambridge, Massachusetts: GPIIb-IIIa Inhibitor Project Team Leader; Thrombin Receptor Inhibitor Project Team Leader; direct supervisory responsibilities for one senior scientist and three research associates

1993 – 1995: Principal Scientist, Biology, ARIAD Pharmaceuticals, Cambridge, Massachusetts: Thromboerythrocyte Project Team Leader; team comprised biologists, chemists, and pharmacologists; direct supervisory responsibilities for one senior scientist and two research associates

1996 – 1997: Director of Biomaterials R&D, Organogenesis, Inc., Canton, Massachusetts: Tissue Engineered Vascular Graft Project Team Leader; direct supervisory responsibilities for three research associates

1996 – 1998: Consultant for Accumetrics, Inc., San Diego, California: Platelet biologist for RPFA (Rapid Platelet Function Assay) device development team; consultant for clinical trial for FDA 510K approval of Accumetrics VerifyNow System

**Professional Societies:**

1988 – present: American Association for the Advancement of Science.

2002 – present: American Heart Association.

2002 – present: American Society of Hematology.

2002 – present: Thrombosis Council, American Heart Association.

2002 – present: International Society on Thrombosis and Haemostasis.

**Grant Review Activities:**

2008 – 2009: Center for Environmental Genomics and Integrative Biology (CEGIB), National Institute of Environmental Health Sciences

3/2009 External Reviewer

3/2008 Invited Reviewer

**Editorial Activities (Ad hoc Reviewer):**

- Circulation
- Blood
- JAMA
- Arteriosclerosis, Thrombosis, and Vascular Biology

- Journal of the American College of Cardiology
- Journal of Thrombosis and Haemostasis
- Thrombosis and Haemostasis
- Platelets

### **Honors and Prizes:**

- 1980-1981: NIH Predoctoral Traineeship  
1981: Sigma Xi Research Award  
1982: American Chemical Society Travel Award  
1983: Graduate Alumni Travel Award, Case Western Reserve University  
1984 – 1986: NIH Postdoctoral Traineeship in Neurobiology

## **Research, Teaching, and Clinical Contributions**

### **Previous Grants and Sponsored Research:**

1. 1987-1989 Research Fellow AHA, California Affiliate,  
Research Fellowship Award; 87-S13  
“Divalent cation regulation of platelet aggregation” (M.H. Ginsberg, M.D., Advisor)
2. 1990 Principal Investigator NIH  
First Independent Research Support and Transition (FIRST) Award, HL-44111  
“Immunochemical Analysis of Ligand-Receptor Interaction”
3. 1999 – 2000: Co-Principal Investigator Centocor, Inc. (Malvern, PA),  
Investigator-initiated sponsored research  
“GPIIb-IIIa Antagonist-induced Fibrinogen Binding to Platelets”, Co-PI: Alan D. Michelson
4. 2000 – 2001: Co-Principal Investigator Accumetrics, Inc. (San Diego, CA)  
Investigator-initiated sponsored research  
“A. Effects of different anticoagulants on eptifibatide inhibition of platelet function as determined by Ultegra RPFA and ADP-stimulated PAC1 binding. B. Validation of PAC1 flow cytometric assay vs. abciximab receptor binding assay. C. Validation of the use of PAC1 flow cytometric assay for use with clopidogrel inhibited samples.”,  
Co-PI: Alan D. Michelson
5. 2000 – 2001 Co-Principal Investigator Centocor, Inc. (Malvern, PA)  
Investigator-initiated sponsored research  
“Molecular Mechanism of Abciximab Reversal of Platelet Aggregation”, Co-PI: Alan D. Michelson
6. 2000 – 2001 Co-Principal Investigator Centocor, Inc. (Malvern, PA)  
Investigator-initiated sponsored research

“Platelet Priming by GPIIb-IIIa Antagonists”, CoPI: Alan D. Michelson.

7. 2001 – 2002 Co-Principal Investigator Centocor, Inc. (Malvern, PA)  
Investigator-initiated sponsored research  
“Dissolution of Preformed Platelet Aggregates”, CoPI: Alan D. Michelson.
8. 2002 – 2007 Co-Principal Investigator Dade Behring (Miami, Florida)  
Investigator-initiated sponsored research  
“Correlation of *In Vitro* and *In Vivo* Determinations of Aspirin Resistance, including Clinical Outcomes”, CoPIs: Mark I. Furman, Alan D. Michelson
9. 2004: Co-Principal Investigator Wyeth Pharmaceuticals (Collegeville, PA)  
Investigator-initiated sponsored research  
“Inhibition of leukocyte-platelet aggregation by WAY-197697”, Co-PI: Alan D. Michelson
10. 2004 – 2005 Co-Principal Investigator BioCytex (Marseilles, France)  
Investigator-initiated sponsored research  
“Utility of BioCytex VASP Phosphorylation and P2Y12 Haplotype Assays in Aspirin Resistance and Clopidogrel Resistance”, CoPI: Alan D. Michelson
11. 2004 – 2006 Co-Principal Investigator Eli Lilly & Co. (Indianapolis, IN)  
Investigator-initiated sponsored research  
H7T-MC-TAAM “Inhibition of Platelet P2Y12 Receptor”, CoPI: Alan D. Michelson
12. 2004 – 2006 Assoc. Director, CPFS Alexion Pharm., Inc. (Cheshire, CT)  
Industry-sponsored research  
Core Platelet Function Laboratory, TRIUMPH (A Transfusion Avoidance Efficacy and Safety Clinical Investigation, Randomized, Multi-Center, Double-Blind, Placebo-Controlled, Using Eculizumab in Paroxysmal Nocturnal Hemoglobinuria Patients) trial. Core Platelet Function Laboratory Director: A.L. Frelinger
13. 2005 – 2007: Assoc. Director, CPFS Alexion Pharm., Inc. (Cheshire, CT)  
Industry-sponsored research  
Core Platelet Function Laboratory, SHEPHERD (Safety in Hemolytic PNH Patients Treated with Eculizumab: A Multicenter Open-label Research Design Study) trial. Core Platelet Function Laboratory Director: A.L. Frelinger
14. 2005 – 2007: Assoc. Director, CPFS Alexion Pharm., Inc. (Cheshire, CT)  
Industry-sponsored research  
Core Platelet Function Studies Laboratory, PNH EXTENSION (A Phase III, Open-Label, Extension Study of Eculizumab in Patients with Transfusion Dependent, Hemolytic Paroxysmal Nocturnal Hemoglobinuria (PNH) Who Have Participated in the TRIUMPH, SHEPHERD or X03-001 Studies) trial. Core Platelet Function Laboratory Director: A.L. Frelinger
15. 2005 - 2007: Assoc. Director, CPFS TIMI Study Group, BWH (Boston, MA)  
Sponsored clinical trial

TRITON-TIMI 38 Platelet Substudy, Director, Core Platelet Function Studies Laboratory: Alan D. Michelson.

16. 2005-2006: Principal Investigator U.S. Army MRMCM  
NIH Small Business Technology Transfer Phase I; W81XWH-05-C-0164  
“Preservation of platelets for hemostatic and wound healing bandages”
17. 2006 - 2007: Co-Principal Investigator Momenta Pharm., Inc. (Cambridge, MA)  
Sponsored clinical trial  
“Effects of M-118 on Platelet Function”, Co-PIs: Mark I. Furman, Alan D. Michelson
18. 2006 - 2007: Co-Principal Investigator Momenta Pharm., Inc. (Cambridge, MA)  
Sponsored clinical trial  
“Phase I Trial of M-118: Platelet Function Core Laboratory”, Co-PIs: Mark I. Furman, Alan D. Michelson.
19. 2006 – 2007: Co-Principal Investigator Eli Lilly & Co. (Indianapolis, IN)  
“The Effects of Platelet P2Y<sub>12</sub> Inhibition by R-138727 on Platelet Procoagulant Activities”, Co-PI Alan D. Michelson.
20. 2006 - 2008: Assoc. Director, CPFS TIMI Study Group, BWH (Boston, MA)  
Sponsored clinical trial  
PRINCIPLE-TIMI 44, Director, Core Platelet Function Studies Laboratory: Alan D. Michelson.
21. 2006-2008: Principal Investigator U.S. Army MRMCM  
NIH Small Business Technology Transfer Phase II; W81XWH-05-C-0164  
“Preservation of platelets for hemostatic and wound healing bandages”
22. 2007 - 2008: Principal Investigator NIH  
SBIR Phase I Subcontract. Primary awardee: Ivan Yanachkov, GL Synthesis  
"Novel Antithrombotic Diadenosine Tetraphosphate Analogs"
23. 2007 - 2008: Principal Investigator NIH  
SBIR Phase I Subcontract. Primary awardee: Ivan Yanachkov, GL Synthesis  
"Diadenosine Boranotetraphosph(on)ates as Antithrombotic Drugs"
24. 2006 - 2008: Co-Principal Investigator Arena Pharm. (San Diego, CA)  
“Effects of 5-HT<sub>2A</sub> Antagonist on Platelet Function”, Co-PI: Alan D. Michelson
- 25.

**Ongoing Grants and Sponsored Research:**

1. 2007 - : Co-Principal Investigator Sanofi Aventis-Bristol-Myers Squibb  
“PACT (Platelet Activity after Clopidogrel Termination)”, Co-PI: Alan D. Michelson.
2. 2008 - : Co-Principal Investigator Eli Lilly & Co. and Daiichi Sankyo

“Prasugrel and Abciximab: Complementary and Synergistic Inhibition of Prothrombotic Activities”, Co-PI: Alan D. Michelson.

3. 2008 - : Co-Principal Investigator Eli Lilly & Co. (Indianapolis, IN)  
“A Pharmacodynamic Comparison of Prasugrel (LY640315) versus High Dose Clopidogrel in Subjects with Type 2 Diabetes Mellitus and Coronary Artery Disease”, Co-PI: Alan D. Michelson.

### **Pending Grants and Sponsored Research:**

1. 2009 - 2011: Principal Investigator NIH  
SBIR Phase II Subcontract. Primary awardee: Ivan Yanachkov, GL Synthesis  
"Novel Antithrombotic Diadenosine Tetraphosphate Analogs"  
Score: 147, proposed start date 7/1/2009
2. 2009 - : Assoc. Director, CPRS Alexion Pharm., Inc. (Cheshire, CT)  
Industry-sponsored research  
Core Platelet Function Laboratory for Protocols C08-002A, C08-002B, C08-003A, and C08-003B, “Open-Label, Multi-Center Controlled Clinical Trials Of Eculizumab In Adult and Adolescent Patients With Plasma Therapy-Sensitive or Resistant Atypical Hemolytic-Uremic Syndrome (Ahus)”. Core Platelet Research Laboratory Director: Alan D. Michelson.

### **Report of Teaching and Training:**

#### **Teaching of Students in Courses:**

1983-1984 Laboratory in Cellular and Molecular Biology, Case Western Reserve University, Cleveland, OH  
Instructor, four sections/week of ~20 undergraduates/section

#### **Laboratory and Other Research Supervisory and Training Responsibilities:**

2/2004 – present Associate Director, 100% effort  
Center for Platelet Function Studies

Directed research carried out by senior research associates, post-docs and visiting scientists (Inge Tarnow, D.V.M., 1/2006 – 6/2006 and Hung Chang, M.D., 12/2006 – 12/2008). Supervised and provided training in preparation of research proposals and manuscripts.

#### **Local Invited Presentations:**

4/7/1995 Update in Transfusion Medicine 1995  
“Synthetic Platelets: Thromboerythrocytes”  
Harvard Medical School  
Department of Continuing Education  
Lecturer

## **Report of Regional, National and International Invited Teaching and Presentations:**

### **Regional:**

- 3/8/1995 "Platelet Substitutes" Invited speaker, Carolinas Clinical Connection 1995, Myrtle Beach SC
- 9/18/2008 "Monitoring Platelet Function", Invited speaker, 2nd Eastern Canadian Symposium on Hemostasis 2008, St. John's, Newfoundland, Canada, September 18-19, 2008
- 10/2/2008 "Monitoring Antiplatelet Therapy for the Coiling of Cerebral Aneurysms" Invited speaker, Micrus North American Senior Fellows Seminar, New England Center for Stroke Research, UMass Medical School, Worcester, MA
- 11/6/2008 "The Role of Platelets, Anti-platelet Therapy and Monitoring of Anti-platelet Therapy in Stent Thrombosis" Lecturer, Providence Neuro Users Group, Sponsor: Cordis Neurovascular, Providence, RI

### **National:**

- 9/23/1994 "Platelet Substitutes" Invited speaker ; Transfusion Medicine of the Future Conference, Phoenix, AZ, sponsored by the American Association of Blood Banks
- 11/6/2007 "Mechanisms and Consequences of Aspirin Resistance", Invited Speaker American Heart Association Scientific Sessions 2007, Orlando, Florida
- 10/11/2008 "Monitoring Platelet Function", LINC Course – Houston 2008: Endovascular Neuroradiology Workshop and Live Cases. October 11-16, 2008

### **International:**

- 7/4/2008 "Less Commonly Used and Newly Developed Platelet Function Assays", Invited speaker, 54th Annual Scientific and Standardization Committee (SSC) Meeting of the International Society on Thrombosis and Haemostasis (ISTH), Vienna Austria, July 4, 2008
- 10/18/2008 "Novel Antiplatelet Agents", Invited speaker, Platelets 2008 International Symposium, Woods Hole, Massachusetts, October 18-21, 2008

## **Bibliography:**

### **Summary:**

**Peer-Reviewed Original Articles: 50**  
**Reviews, Chapters, and Editorials: 19**  
**Published Abstracts and Letters: 47**  
**Total: 116**

### **Peer-Reviewed Original Articles:**

1. Roos BA, Cooper CW, **Frelinger AL**, Deftos LJ. Acute and chronic fluctuations of immunoreactive and biologically active plasma calcitonin in the rat. *Endocrinology*. 1978;103:2180-2186.

2. Roos BA, Yoon MJ, **Frelinger AL**, Pensky AE, Birnbaum RS, Lambert PW. Tumor growth and calcitonin during serial transplantation of rat medullary thyroid carcinoma. *Endocrinology*. 1979;105:27-32.
3. Roos BA, Lindall AW, Baylin SB, O'Neil J, **Frelinger AL**, Birnbaum RS, Lambert PW. Plasma immunoreactive calcitonin in lung cancer. *Endocr Res Commun*. 1979;6:169-190.
4. Roos BA, Lindall AW, Baylin SB, O'Neil JA, **Frelinger AL**, Birnbaum RS, Lambert PW. Plasma immunoreactive calcitonin in lung cancer. *J Clin Endocrinol Metab*. 1980;50:659-666.
5. **Frelinger AL**, 3rd, Zull JE. Oxidized forms of parathyroid hormone with biological activity. Separation and characterization of hormone forms oxidized at methionine 8 and methionine 18. *J Biol Chem*. 1984;259:5507-5513.
6. **Frelinger AL**, 3rd, Zull JE. The role of the methionine residues in the structure and function of parathyroid hormone. *Arch Biochem Biophys*. 1986;244:641-649.
7. Botti RE, Jr., Heath E, **Frelinger AL**, Chuang J, Roos BA, Zull JE. Specific cleavage of bovine parathyroid hormone catalyzed by an endopeptidase from bovine kidney. *J Biol Chem*. 1981;256:11483-11488.
8. **Frelinger AL**, 3rd, Rutishauser U. Topography of N-CAM structural and functional determinants. II. Placement of monoclonal antibody epitopes. *J Cell Biol*. 1986;103:1729-1737.
9. Watanabe M, **Frelinger AL**, 3rd, Rutishauser U. Topography of N-CAM structural and functional determinants. I. Classification of monoclonal antibody epitopes. *J Cell Biol*. 1986;103:1721-1727.
10. Loftus JC, Plow EF, **Frelinger AL**, 3rd, D'Souza SE, Dixon D, Lacy J, Sorge J, Ginsberg MH. Molecular cloning and chemical synthesis of a region of platelet glycoprotein IIb involved in adhesive function. *Proc Natl Acad Sci U S A* 1987;84(20):7114-8.
11. **Frelinger AL**, 3rd, Lam SC, Plow EF, Smith MA, Loftus JC, Ginsberg MH. Occupancy of an adhesive glycoprotein receptor modulates expression of an antigenic site involved in cell adhesion. *J Biol Chem* 1988;263(25):12397-402.
12. Lam SC, Plow EF, D'Souza SE, Cheresh DA, **Frelinger AL**, 3rd, Ginsberg MH. Isolation and characterization of a platelet membrane protein related to the vitronectin receptor. *J Biol Chem* 1989;264(7):3742-9.
13. **Frelinger AL**, 3rd, Cohen I, Plow EF, Smith MA, Roberts J, Lam SC, Ginsberg MH. Selective inhibition of integrin function by antibodies specific for ligand-occupied receptor conformers. *J Biol Chem* 1990;265(11):6346-52.
14. Ginsberg MH, **Frelinger AL**, 3rd, Lam SC, Forsyth J, McMillan R, Plow EF, Shattil SJ. Analysis of platelet aggregation disorders based on flow cytometric analysis of membrane glycoprotein IIb-IIIa with conformation-specific monoclonal antibodies. *Blood* 1990;76(10):2017-23.
15. Loftus JC, O'Toole TE, Plow EF, Glass A, **Frelinger AL**, 3rd, Ginsberg MH. A beta 3 integrin mutation abolishes ligand binding and alters divalent cation-dependent conformation. *Science* 1990;249(4971):915-8.
16. Du XP, Plow EF, **Frelinger AL**, 3rd, O'Toole TE, Loftus JC, Ginsberg MH. Ligands "activate" integrin alpha IIb beta 3 (platelet GPIIb-IIIa). *Cell* 1991;65(3):409-16.
17. **Frelinger AL**, 3rd, Du XP, Plow EF, Ginsberg MH. Monoclonal antibodies to ligand-occupied conformers of integrin alpha IIb beta 3 (glycoprotein IIb-IIIa) alter receptor affinity, specificity, and function. *J Biol Chem* 1991;266(26):17106-11.

18. Pidard D, **Frelinger AL**, 3rd, Bouillot C, Nurden AT. Activation of the fibrinogen receptor on human platelets exposed to alpha chymotrypsin. Relationship with a major proteolytic cleavage at the carboxyterminus of the membrane glycoprotein IIb heavy chain. *Eur J Biochem* 1991;200(2):437-47.
19. Bajt ML, Ginsberg MH, **Frelinger AL**, 3rd, Berndt MC, Loftus JC. A spontaneous mutation of integrin alpha IIb beta 3 (platelet glycoprotein IIb-IIIa) helps define a ligand binding site. *J Biol Chem* 1992;267(6):3789-94.
20. Bowditch RD, Tani PH, Halloran CE, **Frelinger AL**, 3rd, McMillan R, Ginsberg MH. Localization of a P1A1 epitope to the amino terminal 66 residues of platelet glycoprotein IIIa. *Blood* 1992;79(3):559-62.
21. Rote WE, Mu DX, Roncinske RA, **Frelinger AL**, 3rd, Lucchesi BR. Prevention of experimental carotid artery thrombosis by applaggin. *J Pharmacol Exp Ther* 1993;267(2):809-14.
22. Wencel-Drake JD, **Frelinger AL**, 3rd, Dieter MG, Lam SC. Arg-Gly-Asp-dependent occupancy of GPIIb/IIIa by applaggin: evidence for internalization and cycling of a platelet integrin. *Blood* 1993;81(1):62-9.
23. Furman MI, Krueger LA, **Frelinger AL**, 3rd, Barnard MR, Mascelli MA, Nakada MT, Michelson AD. GPIIb-IIIa antagonist-induced reduction in platelet surface factor V/Va binding and phosphatidylserine expression in whole blood. *Thromb Haemost* 2000;84(3):492-8.
24. Claytor RB, Li JM, Furman MI, Garnette CS, Rohrer MJ, Barnard MR, Krueger LA, **Frelinger AL**, 3rd, Michelson AD. Laser scanning cytometry: a novel method for the detection of platelet-- endothelial cell adhesion. *Cytometry* 2001;43(4):308-13.
25. **Frelinger AL**, 3rd, Furman MI, Krueger LA, Barnard MR, Michelson AD. Dissociation of glycoprotein IIb/IIIa antagonists from platelets does not result in fibrinogen binding or platelet aggregation. *Circulation* 2001;104(12):1374-9.
26. Furman MI, Barnard MR, Krueger LA, Fox ML, Shilale EA, Lessard DM, Marchese P, **Frelinger AL**, 3rd, Goldberg RJ, Michelson AD. Circulating monocyte-platelet aggregates are an early marker of acute myocardial infarction. *J Am Coll Cardiol* 2001;38(4):1002-6.
27. Furman MI, Kereiakes DJ, Krueger LA, Mueller MN, Pieper K, Broderick TM, Schneider JF, Howard WL, Fox ML, Barnard MR, **Frelinger AL**, 3rd, Michelson, AD. Leukocyte-platelet aggregation, platelet surface P-selectin, and platelet surface glycoprotein IIIa after percutaneous coronary intervention: Effects of dalteparin or unfractionated heparin in combination with abciximab. *Am Heart J* 2001;142(5):790-8.
28. Furman MI, Krueger LA, **Frelinger AL**, Barnard MR, Mascelli MA, Nakada MT, Michelson AD. GPIIb-IIIa antagonist-induced reduction in platelet surface factor V/Va binding and phosphatidylserine expression in whole blood. *Thrombosis and Haemostasis* 84:492-498, 2000
29. Claytor RB, Li J-M, Furman MI, Garnette CSC, Rohrer MJ, Barnard MR, Krueger LA, **Frelinger AL**, Michelson AD. Laser scanning cytometry: a novel method for the detection of platelet-endothelial cell adhesion. *Cytometry* 43:308-313, 2001
30. Marciniak SJ, Mascelli MA, Furman MI, Michelson AD, Jakubowski JA, Jordan RE, Marchese PJ, **Frelinger AL**. An additional mechanism of action of abciximab: dispersal of newly formed platelet aggregates. *Thrombosis and Haemostasis* 87:1020-1025, 2002
31. Claytor RB, Michelson AD, Li J-M, **Frelinger AL**, Rohrer MJ, Garnette CSC, Barnard MR, Krueger LA, Furman MI. The cleaved peptide of PAR1 is a more potent stimulant of platelet-endothelial cell adhesion than is thrombin. *Journal of Vascular Surgery* 37:440-445, 2003

32. Furman MI, Kereiakes DJ, Krueger LA, Mueller MN, Broderick TM, Schneider JF, Howard WL, Fox ML, Barnard MR, **Frelinger AL**, Michelson AD. Quantification of abciximab-induced platelet inhibition is assay dependent: a comparative study in patients undergoing percutaneous coronary intervention. *American Heart Journal* 145:e6M1-e6M6, 2003
33. **Frelinger AL**, Furman MI, Barnard MR, Krueger LA, Dae MW, Michelson AD. Combined effects of mild hypothermia and glycoprotein IIb/IIIa antagonists on platelet-platelet and leukocyte-platelet aggregation. *American Journal of Cardiology* 92:1099-1101, 2003
34. Furman MI, Krueger LA, Linden MD, Barnard MR, **Frelinger AL**, Michelson AD. Release of soluble CD40L from platelets is regulated by glycoprotein IIb-IIIa and actin polymerization. *Journal of the American College of Cardiology* 43:2319-2325, 2004. (Accompanying editorial: *Journal of the American College of Cardiology* 43:2326-2328, 2004.)
35. Furman MI, Krueger LA, Linden MD, Fox ML, Ball SB, Barnard MR, **Frelinger AL**, Michelson AD. GPIIb-IIIa antagonists reduce thromboinflammatory processes in patients with acute coronary syndromes undergoing percutaneous coronary intervention. *Journal of Thrombosis and Haemostasis* 3:312-320, 2005
36. O'Sullivan BP, Linden MD, **Frelinger AL**, Barnard MR, Spencer-Manzon M, Morris JE, Salem RO, Laposata M, Michelson AD. Platelet activation in cystic fibrosis. *Blood* 105:4635-4641 2005
37. Barnard MR, Linden MD, **Frelinger AL**, Li Y, Fox ML, Furman MI, Michelson AD. Effects of platelet binding on whole blood flow cytometry assays of monocyte and neutrophil procoagulant activity. *Journal of Thrombosis and Haemostasis* 3:2563-2570, 2005
38. **Frelinger AL**, Furman MI, Linden MD, Li Y, Fox ML, Barnard MR, Michelson AD. Residual arachidonic acid-induced platelet activation via an adenosine diphosphate-dependent but cyclooxygenase-1- and cyclooxygenase-2-independent pathway. A 700-patient study of aspirin resistance. *Circulation* 113:2888-2896, 2006. (Accompanying editorial: *Circulation* 113:2865-2867, 2006.)
39. Linden MD, Whittaker P, **Frelinger AL**, Barnard M, Michelson AD, Przyklenk K. Preconditioning ischemia attenuates molecular indices of platelet activation-aggregation. *Journal of Thrombosis and Haemostasis*, 2006;4:2670-2677.
40. Michelson AD, Linden MD, Furman MI, Li Y, Barnard MR, Fox ML, Lau WC, McLaughlin TJ, **Frelinger AL**. Evidence that pre-existent variability in platelet response to ADP accounts for 'clopidogrel resistance'. *Journal of Thrombosis and Haemostasis* 2007;5:75-81
41. Linden MD, Furman MI, **Frelinger AL**, 3rd, Fox ML, Barnard MR, Li Y, Przyklenk K, Michelson AD. Indices of platelet activation and the stability of coronary artery disease. *Journal of Thrombosis and Haemostasis* 2007;5:761-765.
42. Tarnow I, Michelson AD, **Frelinger AL**, 3rd, Linden MD, Li Y, Fox ML, Barnard MR, O'Sullivan B P. Cystic fibrosis heterozygotes do not have increased platelet activation. *Thrombosis Research* 2007;121:159-162
43. **Frelinger AL**, III, Jakubowski JA, Li Y, Barnard MR, Fox ML, Linden MD, Sugidachi A, Winters KJ, Furman MI, Michelson AD. The active metabolite of prasugrel inhibits ADP-stimulated thrombo-inflammatory markers of platelet activation: Influence of other blood cells, calcium, and aspirin. *Thrombosis and Haemostasis* 2007;98:192-200.

44. Wiviott SD, Trenk D, **Frelinger AL**, O'Donoghue M, Neumann FJ, Michelson AD, Angiolillo DJ, Hod H, Montalescot G, Miller DL, Jakubowski JA, Cairns R, Murphy SA, McCabe CH, Antman EM, Braunwald E. Prasugrel Compared With High Loading- and Maintenance-Dose Clopidogrel in Patients With Planned Percutaneous Coronary Intervention. The Prasugrel in Comparison to Clopidogrel for Inhibition of Platelet Activation and Aggregation Thrombolysis in Myocardial Infarction 44 Trial. *Circulation*. 2007;116:2923-2932
45. **Frelinger AL**, Jakubowski JA, Li Y, Barnard MR, Linden MD, Tarnow I, Fox ML, Sugidachi A, Winters KJ, Furman MI, Michelson AD. The active metabolite of prasugrel inhibits adenosine diphosphate- and collagen-stimulated platelet procoagulant activities. *Journal of Thrombosis and Haemostasis* 2008;6:359-365
46. Linden MD, Barnard MR, Frelinger AL, Michelson AD, Przyklenk K. Effect of adenosine A2 receptor stimulation on platelet activation-aggregation: differences between canine and human models. *Thrombosis Research* 2008;121:689-698
47. Tarnow I, Kristensen AT, Krogh AK, **Frelinger AL**, 3rd, Barnard MR, Michelson AD. Effects of physiologic agonists on canine whole blood flow cytometry assays of leukocyte-platelet aggregation and platelet activation. *Vet Immunol Immunopathol*. 2008;123:345-352
48. **Frelinger AL**, Li Y, Linden MD, Tarnow I, Barnard MR, Fox ML, Michelson AD. Aspirin "resistance": role of pre-existent platelet reactivity and correlation between tests. *J Thromb Haemost*. 2008:2035-44
49. Bednarek FJ, Bean S, Barnard MR, **Frelinger AL**, Michelson AD. The platelet hyporeactivity of extremely low birth weight neonates is age-dependent. *Thromb Res*. 2008 Nov 19. [Epub ahead of print]
50. Michelson AD, **Frelinger AL**, Braunwald E, Downey WE, Angiolillo DJ, Xenopoulos N, Jakubowski JA, Li Y, Murphy SA, Qin J, McCabe CH, Antman EM, Wiviott SD. Pharmacodynamic assessment of platelet inhibition by prasugrel versus clopidogrel in the TRITON-TIMI 38 trial. Accepted for publication, *European Heart J* 2008

### Reviews, Chapters, and Editorials:

1. Berkowitz SD, **Frelinger AL**, 3rd, Hillman RS. Progress in point-of-care laboratory testing for assessing platelet function. *Am Heart J* 1998;136(4 Pt 2 Su):S51-65.
2. **Frelinger AL**, 3rd, Hillman RS. Novel methods for assessing platelet function. *Am Heart J* 1998;135(5 Pt 2 Su):S184-6.
3. Michelson AD, Barnard MR, Krueger LA, **Frelinger AL**, Furman MI. Evaluation of platelet function by flow cytometry. *Methods* 21:259-270, 2000
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1. **Frelinger AL**, Furman MI, Krueger LA, Barnard MR, Michelson AD. Activating effects of GPIIb/IIIa blockers: an intrinsic consequence of ligand-mimetic properties. Response. *Circulation* 105:180e-181e, 2002 (letter).

### **Patents:**

1. United States Patent, Ginsberg, M.H., O'Toole, T., Plow, E.F., and **Frelinger, A.L.** III: Antibodies that bind to a ligand induced binding site on integrin and induce integrin activation. U.S. Patent No. 5,306,620 issued 4/26/1994.
2. **Frelinger, A.L.** III, Plow, E.F., and Ginsberg, M.H.: Antibodies that bind to a ligand-induced binding site on GPIIIa. U.S. Patent Application No. 07/417,565.
3. Ginsberg, M.H., **Frelinger, A.L.**, and Plow, E.F.: In vitro methods for determining in vivo thrombotic events. International Patent Application No. PCT/US 92/03419.

### **Abstracts (published within last 3 years and not already published as full-length manuscripts):**

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### **Thesis:**

May 1984      Studies on Oxidized Forms of Parathyroid Hormone

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