

## **ZHENYU LI**

**Current position:** Assistant Professor

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### **EDUCATION**

INSTITUTE	DEGREE	YEARS	FIELD OF STUDY
Nantong University	M.D. (eqv.)	1984-1989	Medicine
Nantong University	Master	1991-1994	Hematology
Soochow University	PhD	1994-1997	Hematology
University of Illinois at Chicago	Post-doc	1999-2003	Pharmacology

### **POSITION AND HONORS**

#### **Positions and Employment**

1989-1991	Medical Residency, Internal Medicine, Zhenjiang the Second Hospital
1997-1999	Instructor in Hematology, Zhenjiang the Second Hospital
1999-2003	Postdoctoral Research Fellow in Pharmacology, University of Illinois at Chicago
2003-2008	Research Assistant Professor in Pharmacology, University of Illinois at Chicago
2008-	Assistant Professor, Department of Medicine, University of Kentucky

#### **Other Experience and Professional Memberships**

2004	Member, Society of Cell Biology
2007	Member, American Heart Association
2007	Member, American Society of Hematology
2009	Member, International Society of Thrombosis and Hemostasis (ISTH)
2007	Reviewer (selected): Blood; JBC, JTH, Stroke, TH, Platelets, Plos One, etc.
2011-	Reviewer, Thrombosis-Basic Science & Clinical/Translational Study Section, American Heart Association

#### **Honors**

1996	Upjohn Suzhou Pharmaceutical Co. Upjohn Prize
2000	ASH (The American Society of Hematology) Travel Award
2001	ASH (The American Society of Hematology) Travel Award
2001~2003	AHA Midwest Affiliate Postdoctoral Fellowship Award
2003-2007	Scientist Development Grant, National
2009	Kenneth M. Brinkhous Young Investigator Prize in Thrombosis (Finalist)

## SELECTED PEER-REVIEWED PUBLICATIONS

1. Bodnar RJ, Gu M, Li Z, Englund GD, Du X. The cytoplasmic domain of the platelet Glycoprotein Ib alpha is phosphorylated at serine 609. **J Biol Chem.** 1999, 274: 33474-33479.
2. Englund GD, Bodnar RJ, Li Z, Ruggeri ZM, and Du X. Regulation of von Willebrand Factor Binding to the Platelet Glycoprotein Ib-IX by a Membrane Skeleton-dependent Inside-out Signal. **J. Biol. Chem.**, 2001 276: 16952-16959.
- 3\*. Li Z, Xi X, and Du X. A Mitogen-activated Protein Kinase-dependent Signaling Pathway in the Activation of Platelet Integrin  $\alpha_{IIb}\beta_3$ . **J. Biol. Chem.** 2001, 276: 42226-42232.
4. Bodnar RJ, Xi X, Li Z, Berndt MC, and Du X. Regulation of Glycoprotein Ib-IX-von Willebrand Factor Interaction by cAMP-dependent Protein Kinase-mediated Phosphorylation at Ser 166 of Glycoprotein Ib $\beta$ . **J. Biol. Chem.**, 2002, 277: 47080-47087.
- 5\*. Li Z, Ajdic J, Eigenthaler M, and Du X. A predominant role for cAMP-dependent protein kinase in the cGMP-induced platelet inhibition and phosphorylation of vasodilator-stimulated phosphoprotein in human platelets. **Blood** 2003, 101: 4423-4429. Highlighted as the subject of an "Inside Blood" commentary.
- 6\*. Li Z, Xi X, Gu, M, Feil R, Ye RD, Eigenthaler M, Hofmann F, and Du X. A stimulatory role for cGMP-dependent protein kinase in platelet activation. **Cell** 2003, 112: 77-86.
- 7\*. Li Z, Zhang, G, Le Breton G, Gao X, Malik AB, and Du X. Two waves of platelet secretion induced by thromboxane A<sub>2</sub> receptor, and a critical role for phosphoinositide 3-kinases. **J. Biol. Chem.** 2003, 278: 30725-30731.
8. Xi X, Bodnar RJ, Li Z, Lam S, and Du X. A critical role for the NITY sequence of the integrin  $\beta_3$  cytoplasmic domain in inside-out signaling and its regulation by calpain. **J. Cell. Biol.** 2003, 162: 329-339.
- 9\*. Li Z, Zhang G, Marjanovic JA, Ruan C, and Du X. A platelet secretion pathway mediated by cGMP-dependent protein kinase. **J. Biol. Chem.** 2004, 279: 42469-42475.
10. Du, X, Marjaanovic JA, Li Z. On the roles of cGMP and glycoprotein Ib in platelet activation. **Blood** 2004, 103: 4371-4372.
11. Marjanovic JA, Li Z, Stojanovic A, and Du X. Stimulatory roles of nitric oxide synthase 3 and guanylyl cyclase in platelet activation. **J. Biol. Chem.** 2005, 280: 37430-37438.
- 12\*. Li Z, Zhang G, Feil R, Han J, and Du X. Sequential activation of p38 and ERK pathways by cGMP-dependent protein kinase leading to activation of the platelet integrin  $\alpha_{IIb}\beta_3$ . **Blood** 2006, 107: 965-972. Highlighted as the subject of an "Inside Blood" commentary.
13. Yin H, Liu J, Li Z, Berndt MC, Lowell CA, Du X. Src family tyrosine kinase Lyn mediates VWF/GPIb-IX-induced platelet activation via the cGMP signaling pathway. **Blood** 2008, 112(4):

**1139-1146.**

14. Welch EJ, Naikawadi RP, **Li Z**, Lin P, Ishii S, Shimizu T, Tiruppathi C, Du X, Subbaiah PV, Ye RD. Opposing Effects of Platelet-activating Factor and Lyso-Platelet-activating Factor on Neutrophil and Platelet Activation. **Mol Pharmacol.** 2009, **75 (1): 227-234.**

15\*. Flevaris P, **Li Z**, Zhang G, Liu J, Zheng Y, and Xiaoping Du. Two distinct roles of mitogen-activated protein kinases in platelets and a novel Rac1-MAPK-dependent integrin outside-in retractile signaling pathway. **Blood** 2009, **113: 891-901. (Co-first author)**

16\*. Zhang G, Han J, Welch E, Ye R, Voyno-Yasenetskaya T, Malik AB, Du X, and **Li Z**. LPS stimulates platelet secretion and promotes platelet aggregation via TLR4/MyD88 and the cGMP-dependent protein kinase pathway. **J. Immunol.** 2009, **182:7997-8004.** (NIHMSID: NIHMS157576). Highlighted as the subject of an “Inside This Issue” commentary.

17\*. **Li Z**, Zhang G, Liu G, Stojanovic A, Ruan C, Lowell C, and Du X. An important role of Src family kinases in platelet secretion. **J. Biol. Chem.** 2010, **285:12559-70. (Corresponding author).**

18\*. Xiang B, Zhang Z, Liu J, Morris AJ, Smyth SS, Gartner TK, **Li Z**. A G<sub>i</sub>-independent mechanism mediating thrombin receptor induced Akt phosphorylation in platelets. **J. Thromb. Haemost.** 2010, **8: 2032-2041.**

19. Feng H, Guo L, Song Z, Gao H, Wang D, Fu W, Han J, **Li Z**, Huang B, Li XA. Caveolin-1 protects against sepsis by modulating inflammatory response, alleviating bacterial burden, and suppressing thymocyte apoptosis. **J. Biol. Chem.** 2010, **285:25154-60.** (PMID: 20534584)

20\*. **Li Z**, M. Keegan Delaney, Kelly A. O'Brien and Xiaoping Du. Signaling during platelet adhesion and activation. (Review article) **Arterioscler. Thromb. Vasc. Biol.** 2010; **30(12):2341-2349.** (PMID: 21071698)

21\*. **Li Z**, Yang F, Dunn S, Gross AK, and Smyth SS. Platelets as immune mediators: their role in the host defense responses and sepsis. (Review article) **Thromb. Res.** 2011, **127(3):184-8.** (PMID: 21075430)

#### **ORAL PRESENTATIONS**

1. **Li Z**, Xi X, Gu G, Ye R, and Du X. The glycoprotein Ib-IX-induced activation of the platelet integrin  $\alpha_{IIb}\beta_3$  is mediated via the cGMP-dependent protein kinase pathway. **XVIIIth International Society of Thrombosis and Hemostasis. July, 2001. Paris.**

2. **Li Z**, Xi X, Gu, M, Feil R, Ye RD, Eigenthaler M, Hofmann F, and Du X. A stimulatory role for cGMP-dependent protein kinase in platelet activation. Activation of the platelet integrin via cGMP-dependent protein kinase pathway. **American Heart Association Annual Meeting. November, 2001, Anaheim, CA**

3. **Li Z**, Ajdic J, Eigenthaler M, and Du X. A predominant role for cAMP-dependent protein kinase in the cGMP-induced platelet inhibition and phosphorylation of vasodilator-stimulated phosphoprotein in human platelets. cAMP-dependent protein kinase plays a predominant role in the cGMP-stimulated phosphorylation of vasodilator-stimulated phosphoprotein. **American Heart Association Annual Meeting. November, 2002. Chicago, IL**
4. **Li Z**, Zhang, G, Le Breton G, Gao X, Malik AB, and Du X. Two waves of platelet secretion induced by thromboxane A<sub>2</sub> receptor, and a critical role for phosphoinositide 3-kinases. **4th Annual Conference on Arteriosclerosis, Thrombosis and Vascular Biology. May, 2003 Washington DC**
5. **Li Z**, Zhang G, Yin H, Feil R, Hofmann F, and Du X. Impaired Platelet Aggregation and Secretion in cGMP-Dependent Protein Kinase II Deficient Mice. **American Society of Hematology Annual Meeting. December, 2005, Atlanta**
6. Zhang G, Feil R, Hofmann F, Du X, and **Li Z**. LPS promotes platelet activation via the cGMP-dependent protein kinase II pathway. **Invited Speaker at 11<sup>th</sup> Midwest Platelet Conference. October, 2006. Chicago.**
7. Zhang G, Welch E, Hofmann F, Du X, and **Li Z**. LPS promotes platelet activation via the TLR4 and cGMP-dependent protein kinase pathway. **Arteriosclerosis, Thrombosis and Vascular Biology Annual Conference. April, 2007, Chicago**
8. Zhang G, Han J, Welch E, Ye RD, Voino-Yasenetskaya TA, Malik AB, Du X, and **Li Z** LPS Stimulates Platelet Secretion and Potentiates Platelet Aggregation via TLR4/MyD88 and the cGMP-Dependent Protein Kinase Pathway. **Arteriosclerosis, Thrombosis and Vascular Biology Annual Conference. April, 2009, Washington DC**
9. Zhang G, Xiang B, Skoda RC, Daugherty A, Smyth SS, Du X, and **Li Z**. A stimulatory role of soluble guanylyl cyclase in platelet activation. **13<sup>th</sup> Midwest Platelet Conference. October, 2010. Chaptel Hill.**
10. Zhang G, Xiang B, Skoda RC, Daugherty A, Smyth SS, Du X, and **Li Z**. Biphasic roles for soluble guanylyl cyclase in platelet activation in mice. **American Society of Hematology Annual Meeting. December, 2010, Orlando.**

### **C. Research Support**

#### **Ongoing Research Support**

1. NIH P20RR021954-01 Lisa Cassis (PI) 07/1/2008-06/30/2013  
 COBRE “Center of Biomedical Research Excellence (COBRE) in Obesity and Cardiovascular Disease”

Project 4 “Platelet activation with obesity promotes atherothrombotic vascular events”

The *goal of this project* is to define the role of platelets in the inflammatory response in mice with diet-induced obesity.

Role: Co-Investigator

**Completed Research Support**

1. Grant-in-Aid AHA 0855698G Li (PI) 07/01/2008-06/30/2010

Title: The role of platelets in sepsis

The objective of this proposal is to delineate the molecular mechanisms of LPS-induced platelet activation and to investigate the role of platelets in sepsis.

Role: PI

2. Scientist Development Grant AHA 0430095N Li (PI) 01/01/04-12/31/07

AHA

Title: The Roles of cGMP/PKG Pathway in Thromboxane A<sub>2</sub>-Induced Platelet Activation.

The goal of this project is to investigate the biphasic roles of cGMP/PKG pathway in thromboxane A<sub>2</sub>-induced platelet secretion and aggregation.

Role: PI.