

CURRICULUM VITAE

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SUNIL K. SHAW

BUSINESS ADDRESS Department of Pediatrics
Kilguss-210
Women and Infants Hospital
101 Dudley Street
Providence RI 02905

BUSINESS PHONE 401-274-1122 x 48005

BUSINESS FAX 401-277-3617

E-MAIL sshaw@wihri.org

EDUCATION:

INSTITUTION	DATES ATTENDED	MAJOR FIELD	DEGREE	YEAR
Delhi University	1983-1986	Zoology	B Sc honors	1986
All India Institute of Medical Sciences	1986-1988	Biotech	M biotech	1988
Harvard University	1988-1995	Immunology	Ph D	1995

POSTGRADUATE TRAINING

INSTITUTION	LEVEL	DATES
Brigham and Women's Hospital Boston, MA	Research Fellow	1995-2001

ACADEMIC APPOINTMENTS

INSTITUTION	POSITION	DATES
Harvard Medical School	Research Fellow in Pathology	1995-2001
Harvard Medical School	Instructor in Pathology	2001-2004
Brown University	Assistant Professor in Pediatrics	2004-

HOSPITAL APPOINTMENTS

INSTITUTION	POSITION	DATES
Brigham and Women's Hospital	Research Fellow	1995-2004
Women and Infants Hospital	Assistant Professor in Pediatrics (Research) and Associate Director Molecular Core, COBRE in Perinatal Biology	2004-

HOSPITAL COMMITTEES

Kilguss Lab Safety Committee Chair

2006-

MEMBERSHIP IN SOCIETIES

American Society of Cell Biology

American Society of Biochemistry and Molecular Biology

American Society for the Advancement of Science

ORIGINAL PUBLICATIONS IN PEER REVIEWED JOURNALS

1. Milstone DS, **Shaw SK**, Parker KL, Szyf M, Seidman JG. An element regulating Adrenal-Specific Steroid 21-Hydroxylase expression is located within the gene. *J Biol Chem* 1992; 267: 21924-7
2. Parker CM, Cepek KL, Russell GJ, **Shaw SK**, Posnett DN, Schwarting R, Brenner MB. A family of $\beta 7$ integrins on human mucosal lymphocytes. *Proc Natl Acad Sci USA*. 1992; 89:1924-8.
3. **Shaw SK**, Cepek KL, Murphy EA, Russell GJ, Brenner MB, Parker CM. Molecular cloning of the human mucosal lymphocyte integrin αE subunit: unusual structure and restricted RNA distribution. *J Biol Chem* 1994; 269:6016-25
4. Smith TJ, Ducharme, LA, **Shaw SK**, Parker CM, Brenner MB, Kilshaw PJ, Weis JH. Murine M290 integrin expression modulated by Mast cell activation. *Immunity*, 1994; 1:393-403
5. Cepek KL, **Shaw SK**, Parker CM, Russell GJ, Morrow J, Rimm DL, Brenner MB. Adhesion between epithelial cells and T lymphocytes mediated by E-cadherin and the $\alpha E \beta 7$ integrin. *Nature*, 1994; 372:190-3.
6. Higgins JMG, Mandlebrot DM, **Shaw SK**, Russell GJ, Murphy EA, Chen Y-T, Nelson WJ, Parker CM, Brenner MB. Direct and regulated interaction of integrin $\alpha E \beta 7$ with E-cadherin. *J Cell Biol* 1998; 140:197-210
7. **Shaw SK**, Hermanowski-Vosatka A, Shibahara T, McCormick BA, Parkos CA, Carlson SL, Madara JL. Migration of intestinal intra-epithelial lymphocytes into a polarized epithelial monolayer. *Am J Physiol* 1998; 275:G584-91.
8. Shibahara T, Si-Tahar M, **Shaw SK**, Madara JL. Adhesion molecules expressed on homing lymphocytes in model intestinal epithelia. *Gastroenterology* 2000; 118:289-98.
9. **Shaw SK**, Bamba PS, Perkins BN, Luscinskas FW. Real-time imaging of Vascular Endothelial-Cadherin during leukocyte transmigration across endothelium. *J Immunol*. 2001; 167:2323-2330.
10. **Shaw SK**, Perkins BN, Lim Y-C, Liu Y, Nusrat A, Schnell FJ, Parkos CA, Luscinskas FW. Reduced Expression of Junctional Adhesion Molecule (JAM) and PECAM-1 (CD31) at

human vascular endothelial junctions by cytokines TNF- α plus IFN- γ does not reduce leukocyte transmigration under flow. *Am J Pathol.* 2001; 159:2281-2291.

11. Ancuta P, Rao R, Moses A, Mehle A, **Shaw SK**, Luscinikas FW, and Gabuzda D. Fractalkine Selectively Mediates Arrest and Migration of CD16+ Monocytes. *J Exp Med.* 2003; 197:1701-1707.

12. Warke RV, Xhaja K, Martin KJ, Fournier MF, **Shaw SK**, Brizuela N, de Bosch N, Lapointe D, Rothman AL, and Bosch I. Pro-inflammatory response of Human Umbilical Vein Endothelial Cells to Dengue virus infection analyzed by independent gene expression technologies. *J Virol.* 2003; 77:11822-11832.

13. Rao RM, Betz TV, Lamont DJ, Kim MB, **Shaw SK**, Froio RM, Baleux F, Arenzana-Seisdedos F, Alon R, Luscinikas FW. Elastase release by transmigrating neutrophils deactivates endothelial-bound SDF-1alpha and attenuates subsequent T lymphocyte transendothelial migration. *J Exp Med.* 2004;200:713-724

14. Cullere X*, **Shaw SK***, Andersson L, Hirahashi J, Luscinikas FW, Mayadas TN. Regulation of vascular endothelial barrier function by Epac, a cAMP activated exchange factor for Rap GTPase. *Blood.* Epub. Sept 16, 2004.

*Equal authorship

15. **Shaw SK***, Ma S*, Kim MB, Rao RM, Hartman CU, Froio RM, Yang L, Jones T, Liu Y, Nusrat A, Parkos CA, Luscinikas FW. Coordinated redistribution of leukocyte LFA-1 and endothelial ICAM-1 accompany neutrophil transmigration. *J Exp Med.* 2004;200:1571-1580.

*Equal authorship

16. Ramirez-Ortiz ZG, Warke RV, Pacheco L, Xhaja K, Sarkar D, Fisher PB, **Shaw SK**, Martin KJ, Bosch I. Discovering innate immunity genes using differential display: a story of RNA helicases. *J Cell Physiol.* 2006; 209:636-44

17. Yang L, Kowalski JR, Yacono P, Bajmoczy M, **Shaw SK**, Froio RM, Golan DE, Thomas SM, Luscinikas FW. Endothelial cell cortactin coordinates intercellular adhesion molecule-1 clustering and actin cytoskeleton remodeling during polymorphonuclear leukocyte adhesion and transmigration. *J Immunol.* 2006; **177**:6440-9.

18. Morin N, Owolabi S, Papa E, Harty M, Tracy T, **Shaw SK**, Kim M, Saab C. Neutrophils invade Lumbar Dorsal Root Ganglia after chronic constriction injury of the sciatic nerve. *J Neuroimmunol.* 2007; **184**:164.

19. Rabodzey A, Yao Y, Luscinikas FW, **Shaw SK**, Dewey CF Jr. Early response of endothelial cells to flow is mediated by VE-cadherin. *Cell Commun Adhes* 2007; **14**:195.

20. Singh RK, Lange TS, Kim KK, **Shaw SK**, Brard L. A novel indole ethyl isothiocyanate (7Me-IEITC) with anti-proliferative and pro-apoptotic effects on platinum-resistant human ovarian cancer cells. *Gynecol Oncol.* 2008; **109**:240.

21. **Shaw SK**, Owolabi SA, Bagley J, Morin N, Cheng E, LeBlanc BW, Kim M, Harty P, Waxman SG, Saab CY. Activated polymorphonuclear cells promote injury and excitability of dorsal root ganglia neurons. *Exp. Neurol.* 2008; **210**:286.
22. Warke RV, Martin KJ, Giaya K, **Shaw SK**, Rothman AL, Bosch I. TRAIL is a novel antiviral protein against dengue virus. *J. Virol.* 2008; **82**:555.
23. Silbert O, Wang Y, Maciejewski BS, Lee H-Y, **Shaw SK**, Sanchez-Esteban J. Roles of RhoA and Rac1 on actin remodeling, cell alignment and differentiation in fetal type II epithelial cells exposed to cyclic mechanical stretch. *Exp. Lung. Res.* 2008; **34**:663
24. Murphy SP, Hanna NN, Fast LD, **Shaw SK**, Berg G, Padbury JF, Romero R, Sharma S. Evidence for participation of uterine natural killer cells in the mechanisms responsible for spontaneous preterm labor and delivery. *Amer. J Obstet. Gyn.* 2009; 200:308.
25. Kang H, Wang Jm Longley SJ, Tang JX, and **Shaw SK**. Relative actin nucleation promotion efficiency by WASP and WAVE proteins in endothelial cells. *Biochem. Biophys. Res. Commun.* 2010; 400:661.
26. Zhang W, Yano N, Deng M, Mao Q, **Shaw SK**, Tseng YT. β -Adrenergic receptor-PI3K signaling crosstalk in mouse heart: elucidation of immediate downstream signaling cascades. *PLoS One.* 2011;6(10):e26581.
27. Shintaku T, Glass KA, Hirakawa MP, Longley SJ, Bennett RJ, Bliss JM, and **Shaw SK**. Human Endothelial Cells Internalize *Candida parapsilosis* via N-WASP-Mediated Endocytosis. *Infect.Immun.* 2013:2777-87.

OTHER PEER REVIEWED PUBLICATIONS

1. **Shaw SK**, and Brenner MB. The β_7 Integrins in Mucosal Homing and Retention. *Semin Immunol.* 1995; **7**:335-42.
2. Luscinskas FW and **Shaw SK**. The Biology of Endothelial Cell-Cell Lateral Junctions. *Microcirculation* 2001; 8:141-142.
3. Luscinskas FW, Ma S, Nusrat A, Parkos CA and **Shaw SK**. Leukocyte transendothelial migration: A Junctional Affair. *Semin. Immunol.* 2002; 14:105-113.
4. Luscinskas FW, Ma S, Parkos CA, and **Shaw SK**. The role of endothelial cell lateral junctions during leukocyte trafficking. *Immunol.Revs.* 2002; 186:57-67.
5. Liu Y, **Shaw SK**, Ma S, Yang L, Luscinskas FW and Parkos CA. Regulation of leukocyte transmigration: cell surface interactions and signaling events. *J. Immunol.* 2004; 172:7-13.
6. Ramirez-Ortiz ZG, Warke RV, Pacheco L, Xhaja K, Sarkar D, Fisher PB, **Shaw SK**, Martin KJ, Bosch I. Discovering innate immunity genes using differential display: A story of RNA helicases. *J. Cell Physiol.* 2006, 209:636-644

BOOKS AND BOOK CHAPTERS

1. Luscinckas FW, Allport JR and **Shaw SK**. Endothelial-dependent Mechanisms of Monocyte Recruitment. In: Granger, ND and Schmid-Shonbein, GW, editors. *Molecular Mechanisms of Microvascular Disorders*. Paris: Springer-Verlag. 2003. Chapter 4, 89-102.

ABSTRACTS

1. **Shaw SK**, Bamba PS, Perkins BN, Luscinckas FW. 2000. Live Time imaging of vascular endothelial -cadherin during leukocyte transmigration across endothelium. *FASEB J*. 15:A391 and A1178.

2. Luscinckas FW, Perkins B, Bamba, PS, **Shaw SK**. 2001. Live Time imaging of vascular endothelial VE-cadherin during leukocyte transmigration across endothelium. XVIII Congress The International Society on Thrombosis and Haemostasis, Paris, France. ATVB

3. Ma S, **Shaw SK**, Yang Y, Jones T, Liu Y, Nusrat A, Parkos CA, Luscinckas FW. Dynamics of Junctional Adhesion Molecule1 (JAM1) during leukocyte transendothelial migration under flow in vitro. *Experimental Biology* 2003, San Diego

GRANTS

1. **1996-1998** NIDDK/NIH (PI) Individual National Research Service Award (Postdoctoral) F32DK009427: Co-culture of Epithelial cells and Mucosal Lymphocytes.

2. **2000-2002** NIDDK/NIH (PI) K01 Mentored Scientist Research Award K01DK002798: Vascular-Endothelial Cadherin Function in Inflammation.

4. **2007** Rhode Island Foundation (PI). Cytoskeletal remodeling in leukocyte transendothelial migration.

5. **2008-2010** NCRR/NIH (target investigator) COBRE P20RR018728: Pilot Project. Uterine NK cell homing from the peripheral circulation.

6. **2009-2012** NHLBI/NIH (PI) R21HL093561-01A1: Cytoskeletal Regulation of endothelial barrier function by WAVE2.

7. **2011-2013** NIGMS/NIH (target investigator) COBRE P20 GM103537: Pilot Project. Adhesion and Invasion of Human Endothelial Cells by *Candida*.

UNIVERSITY TEACHING ROLES

Biology of the Cell Bio 283, Graduate level course (one lecture), 2008, 2011

HOSPITAL TEACHING ROLES

As Associate Director of the Molecular Biology and Imaging Core at WIH, I have taught over 200 undergraduates, graduate students, pre-clinical, medical students, residents, postdocs, Principal Investigators and technicians on a daily basis over the past 8 years. Teaching includes experimental design, equipment use, and data analysis.

As chairman of the Lab safety committee, I present 4-6 Annual Lab Safety Training sessions per year. These last around 90 minutes each, and comprise a presentation, question and answer session, and written exam.