
BIOGRAPHICAL SKETCH

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NAME Jane McHowat	POSITION TITLE Professor		
eRA COMMONS USER NAME MCHOWAT			
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
De Montfort University, Leicester, England	B.Sc.	1980-3	Pharmacy
Bath University	Ph.D.	1984-8	Pharmacology
Washington University School of Medicine	Post-Doc	1989-93	Cardiology

A. Personal Statement

My laboratory has been studying the role of calcium-independent phospholipase A₂ (iPLA₂) in inflammation for several years. My research group was the first to determine that activation of endothelial iPLA₂ is instrumental in recruiting inflammatory cells to the blood vessel wall via platelet-activating factor (PAF) production. We have four active projects in the laboratory that examine recruitment of circulating cells to the endothelium-development and progression of atherosclerosis, myocarditis associated with *T. cruzi* infection, breast cancer metastasis and inflammation associated with interstitial cystitis/painful bladder syndrome. I have a strong background in cardiovascular research and endothelial cell biology, and I have published many peer-reviewed manuscripts on activation of iPLA₂. I have a competitive track record of successful and productive research projects.

B. Positions and Honors

Positions and Employment

1987-1988 Leicester General Hospital, Resident Pharmacist
1988-1989 Lewisham Hospital, Pharmacist Grade D, Residency & Research
1993-1997 University of Arkansas for Medical Science, Department of Pathology, Research Assistant Professor
1997-2002 Saint Louis University School of Medicine, Department of Pathology, Assistant Professor
2002-2007 Saint Louis University School of Medicine, Department of Pathology, Associate Professor
2007-present Saint Louis University School of Medicine, Department of Pathology, Professor

Other Experience and Professional Memberships

1994-present Membership, American Heart Association
2011-Present Fellow of the American Heart Association
2000-present Membership, American Physiological Society
2000 Member of American Heart Association Great America Peer Review Committee
2002 Ad hoc grant reviewer for NIH Path A Study Section
2002-2004 Member of American Heart Association Cardiovascular (Patho)physiology Review Committee
2007-present Member of American Heart Association Cardiac Biology 2 Review Committee
2008 Member of NIDDK Multi-Disciplinary Approach to the Study of Chronic Pelvic Pain Research Network Review Committee
2009-present Guest editor for Pharmaceuticals

Honors

1984-1987 Science and Engineering Research Council Predoctoral Fellowship
1991-1993 American Heart Association, Missouri Affiliate Fellow
1996-2000 Public Health Service, NHLBI FIRST Award

C. Recent Peer-Reviewed Publications (selected from 164 published papers, book chapters, reviews, abstracts):

1. Rastogi, P., Rickard, A., Dorokhov, N., Klumpp, D.J., McHowat, J. Loss of prostaglandin E₂ release from urothelial cells isolated from an interstitial cystitis patient, *Am. J. Physiol.* 2008; 294, F1129-F1135 NIHMSID: 180212
2. Kinsey, G. R., Blum, J.L., Covington, M.D., Cummings, B.S., McHowat, J., Schnellmann, R.G. Decreased iPLA₂ γ expression induces lipid peroxidation, cell death, and sensitizes cells to oxidant-induced apoptosis. *J. Lipid Res.* 2008; 49, 1477-1487 PMC2431104
3. Rastogi, P., White, M.C., Rickard, A., McHowat, J. Potential mechanism for recruitment and migration of CD133 positive cells to areas of vascular inflammation. *Thromb. Res.* 2008; 123, 258-266 PMC2678553
4. Beckett, C.S., McHowat, J. Calcium-independent phospholipase A₂ in rabbit ventricular myocytes. *Lipids.* 2008; 43, 775-782 PMC2831212
5. Rickard, A., Dorokhov, N., Ryerse, J., Klumpp, D., McHowat J. Characterization of Tight Junction Proteins in Cultured Human Urothelial Cells, *In Vitro Cell. Dev. Biol. Anim.* 2008; 44, 261-267 NIHMSID: 180380
6. Rastogi, P., Young, D.M., McHowat, J. Tryptase activates calcium independent phospholipase A₂, releasing PGE₂ in airway epithelial cells. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 2008; 295, L925 - L932 PMC2584891
7. Rastogi, P., McHowat, J. Inhibition of calcium independent phospholipase A₂ prevents inflammatory mediator production in pulmonary microvascular endothelium. *Resp. Physiol. Neurobiol.* 2009; 165, 167-174 PMC2845306
8. Sharma, J., Rastogi, P., Creer, M.H., McHowat, J. Polymorphonuclear leukocytes isolated from umbilical cord blood are a useful research tool to study adherence to cell monolayers, *J. Immunol. Methods* 2009; 351, 30-35 PMC2783264
9. Rastogi, P., Sharma, J., McHowat, J. Methods for measuring the activity and expression of phospholipases A₂. In: *Methods in Lipid-Mediated Signaling.* Murphy E & Rosenberger T (eds) Taylor & Francis. 2010; pages 4-26
10. Sharma, J., Turk, J., McHowat, J. Endothelial cell prostaglandin I₂ and platelet-activating factor production are markedly attenuated in the calcium-independent phospholipase A₂ β knockout mouse. *Biochemistry*, 2010; 49, 5473-5481 PMC2938187
11. Rastogi, P., Rickard, A., Klumpp, D.J., McHowat, J. Urothelial cell platelet-activating factor production is mediated via calcium-independent phospholipase A₂ γ . *Urology.* 2011; 77, 248.e1-7.
12. Sharma, J., Turk, J., Mancuso D.J., Sims, H.F., Gross, R.W., McHowat, J. Activation of group VI phospholipase A₂ isoforms in cardiac endothelial cells of wild type and knockout mice. *Am J Physiol Cell Physiol.* 2011; 300, C872-C879. PMID: 21191104
13. McHowat, J., Gullickson G., Hoover, R.G., Sharma J., Turk, J., Kornbluth J. Platelet-activating factor and metastasis: Calcium-independent phospholipase A₂ β deficiency protects against breast cancer metastasis to the lung. *Am J Physiol Cell Physiol.* 2011; 300,C825-C832 PMID:21228317
14. Sharma, J., McHowat, J. PGE₂ release from tryptase-stimulated rabbit ventricular myocytes is mediated by calcium-independent phospholipase A₂ γ , *Lipids*, 2011; 46, 391-397. PMID: 21461868
15. Blum, J., Kinsey, G.R., Monian, P., Sun, B., Cummings, B.S., McHowat, J., Schnellmann, R.G. Profiling of Fatty Acids Released During Calcium-induced Mitochondrial Permeability Transition in Isolated Rabbit Kidney Cortex Mitochondria. *Toxicol In Vitro.* 2011; 25. 1001-6. PMID: 21443943

D. Research Support (ongoing and completed in the last 3 years)

R01 DK 66119, NIH/NIDDK, "PLA₂ activation by mast cell tryptase in IC"
9/01/03 to 08/31/09

The major goals of this project are to examine phospholipase A₂ activity, phospholipid hydrolysis and accumulation of phospholipid metabolites in bladder urothelial and endothelial cells stimulated with tryptase released from activated mast cells. Role on Project: PI

R01 DK 62028, NIH/NIDDK, "Novel PLA₂ in Oxidant-Induced Renal Cell Oncosis"
01/01/07 to 12/31/10

The major goals of this study are to determine the role that phospholipase A₂ plays in remodeling oxidized phospholipids in the kidney in response to oxidant or toxicant injury. Role on Project: Co-Investigator