

CURRICULUM VITAE

Mohammad A. M Ali, PhD RPh

Department of Oncology
University of Alberta
3337- Cross Cancer Institute
Edmonton, AB T6G 1Z2
+1 780-709-4432 e-mail: mali1@ualberta.ca

EDUCATION:

PhD (Pharmacology), University of Alberta, Canada	2012
MSc (Pharmacology), Alexandria University, Egypt	2006
BSc (Pharmacy), Alexandria University, Egypt	1999

RESEARCH EXPERIENCE:

University of Alberta, Department of Oncology	2013-current
Advisor: Dr. Michael Hendzel	

Currently I am examining the contribution of individual PRC1 subunits within the DNA damage signaling/repair pathway. The current work from my studies may provide novel biomarkers to predict response to chemo/radiotherapy in cancer patients. Moreover, pharmacological inhibition of PRC1 activity may prove to be an effective chemo/radio-sensitizer regimen in cancer therapy.

University of Alberta, Department of Pharmacology	2006-2012
Advisor: Dr. Richard Schulz	

During my PhD studies I mastered various classical and molecular pharmacological techniques to investigate the role of MMP-2 in cardiac injury. I collaborated with Dr. Granzier, a top expert in titin biology. I identified that titin, the largest mammalian protein, is a substrate of MMP-2 in the context of cardiac ischemic injury. In my second project, I provided a mechanistic insight of how a secreted protease, MMP-2, resides within the cell. This work helped to resolve a major controversy in the MMPs biology field.

Alexandria University, Department of Pharmacology	2002-2006
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Advisor: Dr. Azza Bistawroos

During my MSc studies, I established various models of experimentally-induced gastric ulcerations in rats. I performed biochemical assays to determine gastric acidity and mucosal content of reduced glutathione, lipid peroxides and prostaglandin E₂ and helped to design experiments, analyzed and presented data.

Alexandria University, Department of Pharmacognosy	1998-1999
Advisor: Dr. Maha Abo-Alela	

As an undergraduate researcher, I worked in a team to investigate the potential medicinal uses of some natural herbs. I published, as a first author, a 20-page booklet entitled

“*Alternative approaches in the treatment of obesity*”. I gained knowledge about writing scientific papers, analytical and scientific thinking and experimental design.

TEACHING EXPERIENCE:

Graduate Teaching Assistant, University of Alberta 2008-2012

- Helped teach graduate (PMCOL 508, Molecular Pharmacology) and undergraduate courses (PMCOL 415, Cardiovascular Pharmacology).
- Prepared teaching materials and exams.
- Evaluated student performance and provided feedback.
- Consistently received positive student evaluations (av. 4.6/5 in PMCOL 508 and av. 4.2/5 in PMCOL 415).

Assistant Lecturer (with leave of absence), **Alexandria University** 2006-current
Pharmacology Instructor, Alexandria University 2001-2005

- Instructed undergraduate *Practical Pharmacology* laboratories.
- Prepared and taught tutorials and laboratory sessions. Prepared and marked laboratory reports.
- Motivated student audiences, communicated information effectively and evaluated student performance.

PRE- AND POST-DOCTORAL TRAINING:

Postdoctoral fellow, Department of Oncology, University of Alberta, Canada. Supervisor: Dr. Michael Hendzel. 2013-current

Clinical Pharmacist (part-time) (Alberta College of Pharmacists). 2013-current

PhD student, Department of Pharmacology,
University of Alberta, Canada. Supervisor: Dr. Richard Schulz. 2006-2012

Teaching assistant, Department of Pharmacology,
Alexandria University, Egypt. Supervisor: Dr. Azza Bistawroos. 2001-2006

MSc student, Department of Pharmacology, Alexandria
University, Egypt. Supervisor: Dr. Azza Bistawroos. 2002-2006

SCHOLARSHIPS, AWARDS, AND FUNDING:

Major Funding:

Alberta Innovates Health Solution, Clinician Fellowship (\$75,000/year)	2013-current
Alberta Cancer Foundation, Postdoctoral Fellowship (\$55,000/year)	2012-2015

Additional Funding:

Signal Transduction Research Group, Oral Presentation Award (\$125)	2015
Dr. Francis X. Witkowski Publication Award (\$1,000)	2011
-awarded for the best publication of the year from the Cardiovascular Research Centre	
CVRC-Retreat best poster presentation (\$200)	2011
Certificate of Excellence in Research (Dept. of Pharmacology, Alberta)	2011
Med-Star Graduate Student Award for outstanding publication (\$1,000)	2011
-awarded from Faculty of Medicine and Dentistry and Alberta Health Services	
Andrew Stewart Memorial Graduate Prize (\$5,000)	2011
-awarded from Faculty of Graduate Studies and Research for achievement in research	
International Society for Heart Research, Travel Award (\$600)	2010
Canadian Hypertension Society, Education Award (\$100)	2009
-awarded for best presentation in the Canadian Cardiovascular Congress 2009	
Young Investigators Forum, Travel Award (\$500)	2009
The Profiling Alberta's Graduate Student Award (\$1,400)	2009
The 4 th Alberta-wide Cardiovascular Retreat Award (\$200)	2008
Alberta Heritage Foundation for Medical Research, Studentship Award (\$20,000/year)	2008-2011
75 th Anniversary Graduate Student Award, University of Alberta (\$7,500)	2007
Alexandria University Award for Masters in Science (\$100)	2006
The General Egyptian Academic Distinction Award (\$200/year)	1995-1999
-awarded for the top 15% students in each academic year	

PUBLICATIONS

Peer-reviewed journals (published or in press):

1. Fan X, Hughes B, **Ali MA**, Cho WJ, Lopez W, Schulz R (2015). Dynamic alterations to α -actinin accompanying sarcomere disassembly and reassembly during cardiomyocyte mitosis. ***PLoS One*** 10(6): e0129176.
2. Labossiere J, Pelletier J, **Ali MA**, Thiesen A, Schulz R, Bigam D, Cheung PY (2014). Postresuscitation administration of doxycycline preserves cardiac contractile function in hypoxia-reoxygenation injury of newborn piglets. ***Crit Care Med*** 42:e260-269.
Highlighted with an editorial pages e1007-e1008.

3. **Ali MA**, Kandasamy A, Fan X, Schulz R (2013). Hydrogen peroxide-induced necrotic cell death in cardiomyocytes is independent of MMP-2. ***Toxicol In Vitro*** 27:1686-1692.
4. Castro MM, Fuah J, **Ali MA**, Sung M, Schulz J, Kondo MY, Fan X, Holt A, Schulz R (2013). Inhibitory effects of caspase inhibitors on the activity of MMP-2. ***Biochem Pharmacol*** 86:469-475.
5. **Ali MA**, Stepanko A, Fan X, Holt A, Schulz R (2012). Calpain inhibitors exhibit matrix metalloproteinase-2 inhibitory activity. ***Biochem Biophys Res Commun*** 423: 1-5.
6. **Ali MA**, Chow AK, Kandasamy A, Fan X, West J, Crawford B, Simmen T, Schulz R (2012). Mechanisms of cytosolic targeting of matrix metalloproteinase-2. ***J Cell Physiol*** 227: 3397-3404. **Accompanying highlight page v.**
7. **Ali MA**, Fan X, Schulz R (2011). Cardiac sarcomeric proteins: novel intracellular targets of MMP-2 in heart disease. ***Trends Cardiovasc Med*** 21: 112-118.
8. **Ali MA**, Cho W, Hudson B, Kassiri Z, Granzier H, Schulz R (2010). Titin is a target of MMP-2: implications in myocardial ischemia/reperfusion injury. ***Circulation*** 122: 2039-2047. **Highlighted with an editorial pages 2002-2004.**
9. Kandasamy A, Chow AK, **Ali MA**, Schulz R (2010). Matrix metalloproteinase-2 and myocardial oxidative stress injury: beyond the matrix. ***Cardiovasc Res*** 85: 413-423.
10. **Ali MA**, Schulz R (2009). Activation of MMP-2 as a key event in oxidative stress injury to the heart. ***Front Biosci*** 1:699-716.
11. Schulz R, **Ali MA** (2007). PPARalpha: Essential component to prevent myocardial oxidative stress? ***Am J Physiol Heart Circ Physiol*** 293: H11-H12.
12. Abdel-Galil AM, Saad EI, Bistawroos AE, Abo Zeit-Har MS, El-Deeb NM, **#Abdel-Motaal M** (2007). Effect of mastic gum, vitamin E and omeprazole on indomethacin-induced gastric ulcers. ***Alex J Vet Science*** 25:263-272.
13. Abdel-Galil AM, Saad EI, Bistawroos AE, Abo Ziet-Har MS, **#Abdel-Motaal M** (2006). Effect of mastic gum, vitamin E, and omeprazole on ethanol/HCl-induced gastric ulcers in rats. ***Ibn Al-Haitham J Sci Tech*** 1:71-81.

14. Abdel-Galil AM, Saad EI, Bistawroos AE, Abo Ziet-Har MS, #**Abdel-Motaal M** (2005). Effect of mastic gum, and vitamin E on ethanol/HCl-induced gastric ulcers in rats. **J Egypt Soc Toxicol** Vol. 32: Suppl: 99-108
published using my middle name

Articles in preparation:

1. **Ali MA**, McDonald D, Hendzel, M. Novel role of RYBP in DNA repair signaling, implications in cancer therapy.
2. Jacob-Ferreira A, Belal A, **Ali MA**, Fan X, Holt A, Campbell R, Schulz R. Development of fluorescent resonance energy transfer-based biosensors for matrix metalloproteinase-2.
3. Fan X, **Ali MA**, Hughes B, Launier K, Schulz R. Matrix metalloproteinase-2 mediate oncostatin-M induced cardiomyocyte dedifferentiation.

Book chapters:

1. Fan X, **Ali MA**, Hughes B, Jacob-Ferreira A, Schulz R. Intracellular matrix remodeling and cardiac function in ischemia-reperfusion injury. In: **Molecular Mechanisms of Cardiac Remodeling**. B. Jugdutt and N.S. Dhalla (eds.) Springer, New York. 2013.

Abstracts (selected):

1. **Ali MA**, McDonald M, Hendzel M. Novel role of RYBP in DNA double-strand break signalling. Alberta 6th Genomic Integrity & Telomeres. Calgary, AB. June 24-36, 2015.
2. **Ali MA**, McDonald M, Hendzel M. Potential role of RYBP in DNA double-strand break signalling. Canadian Symposium on Telomeres and Genomic Integrity. Quebec City, QC. May 28-30, 2014.
3. Fan X, **Ali MA**, Hughes B, Schulz R. Role of MMP-2 activation in oncostatin-M induced cardiomyocyte dedifferentiation. Experimental Biology, Boston, MA April 20-24, 2013.
4. Fan X, **Ali MA**, Lopaz W, Schulz R. Intracellular proteases and sarcomere disassembly in neonatal cardiomyocytes. Experimental Biology, Boston, MA April 20-24, 2013.
5. Ferreira A, Belal A, **Ali MA**, Holt A, Campbell R, Schulz R. Development of genetically encoded fluorescent protein FRET- based biosensors for matrix metalloproteinase-2. 2nd Congress of the European Society of Cardiology, London, UK, March 30- April 1, 2012.
6. **Ali MA**, Cho W, Hudson B, Kassiri Z, Granzier H, Schulz R. Titin is a target of MMP-2: implications in myocardial ischemia/reperfusion injury. World Congress-International Society for Heart Research, May 13-16th 2010, Kyoto, Japan.

7. **Ali MA**, Chow AK, Crawford B, Simmen T, Schulz R. The signal sequence of MMP-2 dictates its unusual subcellular distribution. Canadian Cardiovascular Congress 2009, Oct. 24-28, Edmonton AB. Can J Cardiol 2009 25:003SB.
8. **Ali MA**, Cho W, Granzier H, Schulz R. Matrix metalloproteinase-2 co-localizes with titin in cardiac myocytes and contributes to its proteolysis in ischemia-reperfusion injury. Experimental Biology 2009, New Orleans, LA. FASEB J. 2009;23:812.11.
9. Tawfik H, **Ali MA**, Schulz R, Kaufman S. Effect of Multiparity on Vascular Compliance and Collagen Content. Experimental Biology 2009, New Orleans, LA. FASEB J. 2009;23:951.7.
10. **Ali MA**, Simmen T, Crawford B, Schulz R. Matrix metalloproteinase-2 splice variants show reduced targeting to the secretory pathway. Canadian Cardiovascular Congress. October 25-29th 2008, Toronto, ON. Can J Cardiol 2008 24:87E.
11. Arulmozhi DK, **Ali MA**, Chow AK, Jay D, Schulz R. Matrix metalloproteinase-2 mediated cleavage alters the kinase activity of glycogen synthase kinase-3 β . Canadian Cardiovascular Congress. October 25-29th 2008, Toronto, ON. Can J Cardiol 2008 24:82E.
12. **Ali MA**, Cho W, Granzier H, Schulz R. Matrix metalloproteinase-2 co-localizes with titin in cardiac muscle and contributes to its degradation upon ischemia-reperfusion injury. Cardiac Sciences Research Day. June 5-6th, 2008, Mazankowski Alberta Heart Institute Inaugural Congress, Edmonton, AB, Canada.
13. **Ali MA**, Sung M, Tran T, Crawford B, Rosenfelt C, Sawicki G, Bishopric N, Schulz R. Matrix metalloproteinase-2 contributes to hydrogen peroxide induced cardiac myocyte apoptosis. Experimental Biology. April 5-9th 2008, San Diego, CA, USA. FASEB J. 2008 22:lb645.
14. **Ali MA**, Sung M, Tran T, Crawford B, Rosenfelt C, Sawicki G, Bishopric N, Schulz R. Inhibitors of matrix metalloproteinases prevent H₂O₂-mediated cardiac myocyte membrane permeabilization and death. WPS/CPS Pharmacology and Therapeutics Conference. March 4-8th, 2007, Banff, AB.
15. Tawfik HE, **Ali MA**, Schulz R, Jacob S. Effect of parity on vascular compliance and collagen content. Annual Western Perinatal Research Meeting. February 14-17th, 2008, Banff, AB, Canada.

Oral presentations :

1. Novel Role of RYBP in DNA Damage Repair. Signal Transduction Research Group-Annual Retreat 2015, University of Alberta, AB, Canada.
2. Polycomb repressive complex-1 in DNA damage response and Radiation therapy. Radiation Oncologists Round 2014, Cross Cancer Institute, Edmonton AB, Canada.
3. Role of BMI1 in DNA double strand break repair. Signal Transduction Network 2013, University of Alberta, Canada.
4. Hydrogen peroxide-induced cell death in cardiomyocytes; potential role of MMP-2. Pharmacology Research Day 2011, University of Alberta, Canada.
5. Mechanism of cytosolic targeting of MMP-2 in cardiac cells. The Annual Conference of Cardiac Sciences 2010, University of Alberta, Canada.
6. Titin is a target of MMP-2: implications in myocardial ischemia/reperfusion injury. Pharmacology Research Day 2009, University of Alberta, Canada.
7. The signal sequence of MMP-2 dictates its unusual subcellular distribution. Canadian Cardiovascular Congress 2009, Edmonton AB, Canada.
8. Matrix metalloproteinase-2 co-localizes with titin in cardiac myocytes and contributes to its proteolysis in ischemia-reperfusion injury. Cardiac Sciences Conference 2008, University of Alberta, Canada.
9. Inhibitors of matrix metalloproteinases prevent H₂O₂-mediated cardiac myocyte membrane permeabilization and death. Pharmacology Research Day 2007, University of Alberta, Canada.
10. Effect of mastic gum, and vitamin E on ethanol/HCl-induced gastric ulcers in rats. The 20th Scientific Conference of the Egyptian Society of Toxicology 2005, Beni Suif, Egypt.

ACADEMIC AND COMMUNITY SERVICE:

Graduate Student Representative, Dept. of Pharmacology	2009-2012
Member, Egyptian Student Association	2006-2012

SOCIETY MEMBERSHIP:

Alberta College of Pharmacists
International Society of Heart Research
Alberta Cancer Foundation

Golden Key International Honor Society-U of A chapter
(membership by invitation only)
The Canadian Society of Pharmacology and Therapeutics
The Canadian Hypertension Society
The Canadian Pharmacist Association

REFERENCES:

Available upon request.

October 21, 2015