

Othman Al-Shboul, Ph.D.

Associate Professor

Physiology

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Personal Data

- Date of Birth: March 16, 1981
- Place of Birth: Ashjarah, Jordan
- Nationality: Jordanian
- Marital Status: Married Male

Education

- **PhD, Physiology and Biophysics, Virginia Commonwealth University – VCU, 2011**
Virginia – USA, GPA: 4.0
- **B.Sc. in Dental Surgery, Jordan University of Science Technology – JUST, 2004**
Irbid – Jordan

Graduate Projects

- **Thesis:** Differential Regulation of MLC₂₀ Phosphorylation in Tonic and Phasic Smooth Muscles of the Stomach.
- **Posters and Presentations:**
 1. Expression of AMP-Activated Kinase (AMP Kinase) and Inactivation of Myosin Light Chain (MLC) Kinase By AMP Kinase Determines the Magnitude of Smooth Muscle Contraction in Different Regions of the Stomach. **(DDW 2009, Oral)**
 2. Expression of PDE5 and its stimulation by cGMP-dependent protein kinase (PKG) determine the magnitude of smooth muscle relaxation in different regions of the stomach. **(EB 2010)**
 3. Agonist-induced Rho kinase and zip kinase activity levels in different regions of the stomach. **(EB 2011)**
 4. Differences in the expression of multi-drug resistant protein 5 and regulation of cGMP levels in phasic and tonic smooth muscles. **(EB 2011)**

5. Differences in the expression of VPAC2 receptors and adenylyl cyclase V/VI and VIP-induced cAMP generation in phasic and tonic smooth muscles. **(EB 2011)**

Scientific Meetings

- **Digestive Disease Week (DDW)**; 2009, Chicago, Illinois - USA
- **Experimental Biology (EB)**; 2010, Anaheim, California - USA
- **Experimental Biology (EB)**; 2011, Washington, DC - USA

Key Skills and Qualities

- Computer office work; Excellent
- Language; fluent in Arabic and English

Personal Achievements

- **Ramsey Award**
Department of Physiology and Biophysics-VCU, 2008;
First year student in the PhD program with highest academic standing.
- **Charles C. Clayton Award**
School of Medicine - VCU, 2009;
Reward an outstanding rising second year graduate student in the biomedical sciences.
- **Member of the Honor Society of Phi Kappa Phi**
- **Member of Golden Key International Honor Society**
- **Member of American Physiology Society (APS)**
- **Certificate of recognition**
Department of Physiology and Biophysics - VCU, 2011;
Reward an outstanding graduating doctoral student.
- **Editorial Board Member in the following journals:**
 1. Gastro Open Access Journal
 2. EC Gastroenterology and Digestive System (ECGDS)
 3. EC Neurology (ECNE)
 4. World Journal of Gastrointestinal Pathophysiology
 5. International Journal of Anatomy & Applied Physiology (IJAAP)

Experience

- **Professional dentist**
Private dental center – Jordan
2005
- **Teaching assistant**
School of Medicine, Virginia Commonwealth University – VCU, Virginia - USA
2008 – 2009; Graduate mammalian physiology course (PHIS501) and M1 Physiology labs
- **Teaching**
Jordan University of Science and Technology – JUST, Jordan
2011 – till now
- **Chairman of the Department of Physiology and Biochemistry at Jordan University of Science and Technology – JUST, Jordan**
September 1, 2014 – till now

Running Research

- **Effect of Oxidative Stress on Rat Gastric Smooth Muscle Cell Contraction: Effect on RhoA/Rho kinase II Pathway (JUST fund)**
- **Effect of Progesterone and Estrogen on the Contraction of Gastric Smooth Muscles; Effect on Rho/Rho kinase II Pathway (JUST fund)**
- **Effect of oxidative stress on the expression of actin and thin filament-associated proteins in gastric smooth muscle cells**
- **Sex-dependent differences in Rho kinase activation in rat gastric smooth muscle cells**
- **differential expression of estrogen receptors in gastric smooth muscle cells of male and female rats**

Publications

1. **Al-Shboul O**, Mustafa A. Effect of oxidative stress on Rho kinase II and smooth muscle contraction in rat stomach. *Canadian Journal of Physiology and Pharmacology*. 2015; Epub ahead of print.
2. **Al-Shboul O**, Mustafa A, Al-hashimi F. Non-genomic effects of progesterone on Rho kinase II in rat gastric smooth muscle cells. *Journal of smooth muscle research = Nihon Heikatsukin Gakkai kikanishi*. 2013;49:55-62. Epub 2013/10/19.
3. **Al-Shboul OA**. The importance of interstitial cells of cajal in the gastrointestinal tract. *Saudi journal of gastroenterology : official journal of the Saudi Gastroenterology Association*. 2013;19(1):3-15. Epub 2013/01/16.
4. **Al-Shboul O**, Mahavadi S, Sriwai W, Grider JR, Murthy KS. Differential expression of multidrug resistance protein 5 and phosphodiesterase 5 and regulation of cGMP levels in phasic and tonic smooth muscle. *American journal of physiology Gastrointestinal and liver physiology*. 2013;305(4):G314-24. Epub 2013/06/15.
5. Ahmed R, Mahavadi S, **Al-Shboul O**, Bhattacharya S, Grider JR, Murthy KS. Characterization of signaling pathways coupled to melatonin receptors in gastrointestinal smooth muscle. *Regulatory peptides*. 2013;184:96-103. Epub 2013/04/02.
6. Alkahtani R, Mahavadi S, **Al-Shboul O**, Alsharari S, Grider JR, Murthy KS. Changes in the expression of smooth muscle contractile proteins in TNBS- and DSS-induced colitis in mice. *Inflammation*. 2013;36(6):1304-15. Epub 2013/06/25.
7. Bhattacharya S, Mahavadi S, **Al-Shboul O**, Rajagopal S, Grider JR, Murthy KS. Differential regulation of muscarinic M2 and M3 receptor signaling in gastrointestinal smooth muscle by caveolin-1. *American journal of physiology Cell physiology*. 2013;305(3):C334-47. Epub 2013/06/21.
8. Mahavadi S, Bhattacharya S, Kim J, Fayed S, **Al-Shboul O**, Grider JR, et al. Caveolae-dependent internalization and homologous desensitization of VIP/PACAP receptor, VPAC(2), in gastrointestinal smooth muscle. *Peptides*. 2013;43:137-45. Epub 2013/03/19.
9. Mahavadi S, Nalli A, Al-Shboul O, Murthy KS. Inhibition of MLC Phosphorylation Downstream of Ca and RhoA: A Novel Mechanism Involving Phosphorylation of Myosin Phosphatase Interacting Protein (M-RIP) by PKG and Stimulation of MLC Phosphatase Activity. *Cell biochemistry and biophysics*. 2013. Epub 2013/06/01.
10. Sriwai W, Mahavadi S, **Al-Shboul O**, Grider JR, Murthy KS. Distinctive G Protein-Dependent Signaling by Protease-Activated Receptor 2 (PAR2) in Smooth Muscle: Feedback Inhibition of RhoA by cAMP-Independent PKA. *PloS one*. 2013;8(6):e66743. Epub 2013/07/05.
11. Mustafa AG, **Alshboul OA**. Pathophysiology of traumatic brain injury. *Neurosciences (Riyadh)*. 2013;18(3):222-34. Epub 2013/07/28.
12. Nalli AD, Kumar DP, **Al-Shboul O**, Mahavadi S, Kuemmerle JF, Grider JR, et al. Regulation of Gbetagamma-Dependent PLC-beta3 Activity in Smooth Muscle: Inhibitory Phosphorylation of PLC-beta3 by PKA and PKG and Stimulatory Phosphorylation of

Galpha-GTPase-Activating Protein RGS2 by PKG. Cell biochemistry and biophysics. 2014. Epub 2014/04/30.

13. Nalli AD, Kumar DP, Mahavadi S, **Al-Shboul O**, Alkhatani R, Kuemmerle JF, et al. Hypercontractility of Intestinal Longitudinal Smooth Muscle Induced by Cytokines is Mediated by NFkappaB/AMP-Activated Kinase/MLC Kinase Pathway. The Journal of pharmacology and experimental therapeutics. 2014. Epub 2014/04/29.
14. **Al-Shboul O**, Nalli AD, Kumar DP, Zhou R, Mahavadi S, Kuemmerle JF, et al. Jun kinase-induced overexpression of leukemia-associated Rho GEF (LARG) mediates sustained hypercontraction of longitudinal smooth muscle in inflammation. American journal of physiology Cell physiology. 2014. Epub 2014/04/18.
15. **Al-Shboul OA**, Mustafa A, Mohammad M, Al-Shehabat M, Yousef A, Al-Hashimi F. Effect of Oxidative Stress on the Expression of Thin Filament-Associated Proteins in Gastric Smooth Muscle Cells. Cell biochemistry and biophysics. 2014. Epub 2014/03/19.
16. Mukhallad A. M. Mohammad, Muhanad S. Abdelwahab, Mohamad M. J. Mohamad, **Othman El shboul**, Waleed R. Ezzat Cardiac myosin heavy chains in mice treated with NG-nitro-L-arginine methyl ester and thyroxine. Comparative Clinical Pathology. November 2013.
17. **Al-Shboul, Othman**. The role of the RhoA/ROCK pathway in gender-dependent differences in gastric smooth muscle contraction. The Journal of Physiological Sciences 2015: 1-8.

Research Gate Link: https://www.researchgate.net/profile/Othman_Al-Shboul

Google Scholar Link: <https://scholar.google.com/citations?hl=en&user=A7vYuFgAAAAJ>