

## CURRICULUM VITAE

### **Personal:**

**Name:** Hesham Mokhtar Mohamed El-Shewy  
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### **Professional Experience:**

1990 - 1994 Instructor of Clinical Pathology, College of Veterinary Medicine, Suez Canal Univ, Egypt  
1994 - 1998 Asst Lecturer of Clinical Pathology, College of Veterinary Medicine, Suez Canal Univ, Egypt  
1996 - 1998 Research Fellow, Department of Surgery, Duke Univ Med Center, Durham, NC  
1998 - 2007 Asst Prof of Clinical Pathology, College of Veterinary Medicine, Suez Canal Univ, Egypt  
2007 - 2008 Assoc Prof of Clinical Pathology, College of Veterinary Medicine, Suez Canal Univ, Egypt  
2001 - 2002 Research Associate, Department of Surgery, Duke Univ Med Center, Durham, NC  
2002 - 2004 Research Associate, Division of Endocrinology, Duke Univ Med Center, Durham, NC  
2004 - 2005 Research Associate, Division of Endocrinology, MUSC, Charleston, SC  
2005 - Present Asst Prof of Medicine, Division of Endocrinology, MUSC, Charleston, SC

### **Education:**

**April, 1998** Ph.D. in Clinical Pathology, College of Vet. Med., Suez Canal Univ., Ismailia, Egypt.  
**January, 1994** M.V.Sc. in Clinical Pathology, College of Vet. Med. Suez Canal Univ., Ismailia, Egypt.  
**May, 1988** DVM, College of Vet. Med., Zagazig Univ.(Benha Branch), Egypt.

### **Professional Societies:**

1989 Member, Egyptian Veterinary Syndicate.  
1994 Member, Egyptian Veterinary Medical Society for Pathology and Clinical Pathology.  
1999 Member, Egyptian British Biological Society.  
2001 Member, American Diabetes Association.  
2008 Member, Endocrine Society.

### **Editorial Position:**

Ad hoc reviewer for:  
2007 Journal of Biological Chemistry.  
2008 American Journal of Physiology-Renal.

**Honors and Awards:**

**January, 1996- January 1998:** Egyptian Government Scolorship to Duke University, Durham, North Carolina, USA.

**December, 2007:** Travel Award for Outstanding Basic Junior Faculty Research Presentation from the Department of Medicine, Medical University of South Carolina.

**December, 2008:** Travel Award for Outstanding Basic Junior Faculty Research Presentation from the Department of Medicine, Medical University of South Carolina.

**June, 2008:** Travel Grant Award from the Endocrine Society for exceptional research presented at the 90<sup>th</sup> Annual Meeting of the Endocrine Society.

**Research Support:**

**Ongoing**

**1R01HL077192-03** (PI): Jaffa, Ayad A. 2006-02-01 – 2011-01-30

Agency: NIH/NHLBI

Title: Lipoproteins, CTGF and diabetic vascular and renal disease

Role: Co-Investigator

**5 R01 DK055524-08** (PI): Luttrell, Louis M. 2003-10-01–2007-07-31\*

Agency: NIH/NIDDK \* NIH Directors Bridge Award: 2008-08-01 – 2009-07-31

Title: Tyrosine Kinases in G Protein Mediated Signaling

Role: Collaborator

**Completed**

**5 R01 DK058283-05** (PI): Luttrell, Louis M. 2003-10-01–2006-05-31

Agency: NIH/NIDDK

Title: Receptor Transactivation in Insulin Signaling

Role: Collaborator

**5 R01 DK064353-04** (PI): Luttrell, Louis M. 2002-09-15–2006-08-31

Agency: NIH/NIDDK

Title: Parathyroid Hormone and Osteoblast Mitogenesis

Role: Collaborator

**Pending**

Agency: AHA

Title: Role of Sphingosine Kinase 1 in Regulation of Vascular Tone by Angiotensin II.

Role: PI

Agency: COBRE in Lipidomics and Pathology. (PI): Hesham M. El-Shewy

Title: Role of Sphingosine Kinase 1 in Regulation of Vascular Tone by Angiotensin II.

Role: PI

**June, 2008:** Travel Grant Award from the Endocrine Society for exceptional research presented at the 90<sup>th</sup> Annual Meeting of the Endocrine Society.

Agency: NIH (PI): Jaffa, Ayad A.

Title: Kinin and AT2 Receptors in Hypertension and Renal Injury.

Role: Co-Investigator.

**Poster Presentations:**

1. **El-Shewy HM.,** Komlosi., Lee MH., Abdel-Razek SA., P.Darwin Bell, Obeid LM. and Luttrell LM (2009): Role of sphingosine kinase in Ang II-mediated regulation of Vascular Tone. The 91th Annual Meeting of the Endocrine Society. Washington, DC. (Poster).
2. **El-Shewy HM.,** Komlosi., Lee MH., P.Darwin Bell and Luttrell LM (2008): Sphingosine kinase activation mediates regulation of vascular tone by Ang II.

- Department of Medicine Research Day, Medical University of South Carolina, Charelston, SC. (Poster).
3. **El-Shewy HM.**, Anelli V., Abdel-Razek SA., Jaffa A., Obeid LM. and Luttrell LM (2008): Protein Kinase C 2 Mediates IGF-2 Activated ERK1/2 Phosphorylation Via Sphingosine Kinase Activation. The 90th Annual Meeting of the Endocrine Society. San Francisco, CA. (Oral presentation)
  4. **El-Shewy HM.**, Johnson KR., Lee MH., Abdel-Razek SA., Obeid LM. and Luttrell LM. (2008): Sphingosine kinase activation mediates EGF induced intracellular Ca<sup>++</sup> release. The 90th Annual Meeting of the Endocrine Society. San Francisco, CA. (Poster).
  5. Kendall RT., Lee MH., **El-Shewy HM.**, Janech MG., Luttrell DK and Luttrell LM (2008): Activtion of G protein antagonist AT1 $\alpha$  receptor signaling pathways elicits a distint protein phosphorylation profile. The Endocrine Society Meeting. San Francisco, CA (Poster).
  6. **El-Shewy HM.**, Anelli V., Abdel-Razek SA., Jaffa A., Obeid LM. and Luttrell LM (2008): Protein kinase C 2  $\beta$ 2 mediates IGF-2 activated ERK1/2 phosphorylation via sphingosine kinase activation. Gordon Research Conference: Glycolipid & Sphingolipid Biology. Lucca (Barga), Il Ciocco, Italy (Oral presentation).
  7. **El-Shewy HM.**, Johnson KR., Lee MH., Abdel-Razek SA., Obeid LM. and Luttrell LM (2007): Sphingosine Kinase Activation Mediates EGF Induced Intracellular Ca<sup>2++</sup> Release. Department of Medicine Research Day, Medical University of South Carolina, Charelston, SC. (Poster).
  8. **El-Shewy HM.**, Johnson KR., Lee MH., Jaffa A., Obeid LM. and Luttrell LM (2006): Cross-Talk Betwee Insulin-Like Growth Factors Receptors and Sphingosine-1-Phosphate Receptor. Department of Medicine Research Day, Medical University of South Carolina, Charelston, SC. (Poster).
  9. **El-Shewy HM.**, Luttrell DK., Lee MH. and Luttrell LM (2005): The IGF-1 and IGF-2/Mannose 6-Phosphate Receptors Mediate ERK1/2 Activation via Distinct Mechanisms in HEK-293 Cells. The Endocrine Society, June, San Diego, CA. (Poster).
  10. **El-Shewy HM.**, Johnson KR., Obeid LM. and Luttrell LM (2005): IGF-1, IGF-2 and EGF Stimulation Leads to Activation and Translocation of Sphingosine Kinase 1: A Possible Mechanism for Growth Factor-Mediated EDG Receptor Transactivation. The Endocrine Society, June, San Diego, CA. (Poster).
  11. **El-Shewy HM.**, Francine L. Kelly, Liza Baraki-Harrington, and Louis M. Luttrell (2004): Ectodomain shedding-dependent transactivation of Epidermal Growth Factor Receptors in response to Insulin-Like Growth Factor Type 1. The American Society For Biochemistry and Molecular Biology (ASBMB), June, Boston, Massachusetts (Poster).
  12. Darrabie M., Kendall Jr. W., **El-Shewy H.**, Collins B.H. and Opara E.C (2004): Features of Poly-L-Ornithine as preme-Selective coating for microcapsules. The American Diabetes Association (ADA), June, Orlando, Florida (Poster).
  13. Opara E.C., Sykes Z. and **El-Shewy H. M.** (2003): Perturbation  $\beta$ -cell microtubule assembly: Effect on nutrient-stimulated insulin secretion. American Diabetes Association (ADA), June, New Orleans, Louisiana.
  14. Gesty-Palmer D., **El-Shewy H.**, Dar M., Kohout T. and Luttrell L. (2003): beta-Arrestin expression determines the mechanism of ERK1/2 activation and transcriptional response to lysophosphatidic acid in murine embryo fibroblasts. The American Society for Clinical Investigation (ASCI)/ American Association of Physician Joint Meeting. April, Boston, Massachusetts (Poster).

15. **El-Shewy HM.**, Kendall Jr. W., Darrabie M., Collins B.H. and Opara E.C. (2003): A novel procedure in islet cell banking. The Society of Black Academic Surgeons (SBAS), Birmingham, AL. (Oral presentation).
16. **El-Shewy HM.**, Kendall Jr. W., Darrabie M., Collins B.H. and Opara E.C. (2003): Islet cell integrity and function after freezing with various cryoprotectants Cell Transplantation Society, March, Atlanta, Georgia (Poster).

### **Publications:**

- 1) Lee M H, **El-Shewy HM**, Luttrell DK, Luttrell LM. (2008) Role of  $\beta$ -arrestin-mediated desensitization and signaling in the control of angiotensin AT1 $\alpha$  receptor-stimulated transcription. *Journal of Biological Chemistry*. 283(4):2088-97.
- 2) Lee M H, Klein RL, **El-Shewy HM**, Luttrell DK, Luttrell LM. (2008) The adiponectin receptors AdipoR1 and AdipoR2 activate ERK1/2 through a Src/Ras-dependent pathway and stimulate cell growth in HEK293. *Biochemistry*. 47(44):11682-11692.
- 3) **El-Shewy HM**, Lee M H, Obeid LM, Jaffa AA, Luttrell LM. (2007) The insulin-like growth factor type 1 and insulin-like growth factor type 2/mannose-6-phosphate receptors independently regulate ERK1/2 activity in HEK293 cells. *Journal of Biological Chemistry*, 282(36):26150-7.
- 4) **El-Shewy HM**, Johnson KR, Lee M H, Jaffa AA, Obeid LM, Luttrell LM. (2006) Insulin-like growth factors mediate G proteins dependent activation of ERK1/2-MAP kinase signaling through sphingosine-1-phosphate receptor transactivation. *Journal of Biological Chemistry*, 281(42):31399-31407.
- 5) Jaffri F, **El-Shewy HM**, Lee M H, Kelly M, Luttrell DK, Luttrell LM. (2006) Constitutive ERK1/2 activation by a chimeric neurokinine NK1 receptor-beta-arrestin1 fusion protein: Probing the composition and function of the G protein-coupled receptor 'signalsome'. *Journal of Biological Chemistry*, 281(28):19346-19357.
- 6) Gesty-Palmer D., **El-Shewy HM.**, Kohout TA. and Luttrell LM. (2005):  $\beta$ -Arrestin 2 expression determines the transcriptional response to lysophosphatidic acid stimulation in murine embryo fibroblasts. *Journal of Biological Chemistry*, 16;280(37):32157-67.
- 7) **El-Shewy HM.**, Hassan AM. and El-hamamy MM. (2005): Immunopathological studies on the toxic effect of mercuric chloride in chickens. *Egyptian Journal of Comparative Pathology and Clinical Pathology*. 18(1):165-184.
- 8) **El-Shewy HM.**, Kelly FL., Baraki-Harrington L., and Luttrell LM. (2004): Ectodomain shedding-dependent transactivation of Epidermal Growth Factor Receptors in response to Insulin-Like Growth Factor Type 1. *Molecular Endocrinology* 18(11):2727-2739
- 9) Kendall Jr. W., Darrabie M., **El-Shewy H.**, Collins B.H. and Opara E.C. (2004): Effect of alginate composition and purity on alginate microspheres. *J. Microencapsulation* 21(8) : 821-828.
- 10) **El-Shewy H.**, Kendall Jr. W., Darrabie M., Collins B.H. and Opara E.C. (2004): Polyvinyl pyrrolidone: a novel cryoprotectant in islet cell cryopreservation. *Cell Transplantation*, 13:237-243.
- 11) Darrabie M., Kendall Jr. W., **El-Shewy H.**, Collins B.H. and Opara E.C (2004): Features of Poly-L-Ornithine as preme-Selective coating for microcapsules. *Diabetes*. P. A108. (Abstract).

- 12) Opara E.C, Kendall Jr. W., Darrabie M., **El-Shewy H.**, Collins B.H. and (2003): Effect of composition and purity of alginate on microcapsule shape and size. *Diabetes Technology & Therapeutics*.5(2):262. (Abstract).
- 13) Abd-Alla O., **El-Shewy H.M.**, Fetaih H., and Yousef F.,(2003): Some hematological and biochemical alterations of experimentally infected rabbits by *Pasteurella multocida*. *Journal of Animal Science*, 81, supplement 2, p. 12. (Abstract)
- 14) El-Miniawy H.M., Ahmed S., **El-Shewy H.**, Hassan A., and Shaheed I.B. (2001): Pathological, clinicopathological and mutagenic effect of Dimethyle Diphenyl Bicarboxylate (DDB) and its activity against carbon tetrachloride toxicity in albino rats. *Journal of Egyptian Veterinary Medical Association*,61(6B):35-52.
- 15) Fetaih H., Zohour Nabil, **El-Shewy H.**, Salwa Metwaly and Khadiga Dandash (2000): Effect of occupational exposure to shoe glue on the cardiovascular system of human and experimental animals. *Journal of Egyptian German Society of Zoology*, 32(A) *Comparative Physiology*, 57-69.
- 16) Abdel-aleem S., **El-Shewy H.**, Abd-Alla O., Lowe J. and Opara E. (1998): Effects of crude extract of *Centuarea calcitraba L.* on insulin secretion in isolated rat islets of Langerhans. *Diabetes Research*, **33**: 45-53.
- 17) Abdel-aleem S., **El-Shewy H.**, Abd-Alla O., Lowe J. and Opara E. (1998): Effects of crude extract of *Centuarea calcitraba L.* on glucose and fatty acid metabolism in isolated rat myocytes. *Diabetes Research*, **33**: 77-92.
- 18) Abdel-aleem S., St. Louis J., Hendrickson S., **El-Shewy H.**, El-Dawy K., Taylor D. and Lowe J. (1998): Regulation of carbohydrate and fatty acid utilization by L-carnitine during cardiac development and hypoxia. *Mol Cell Biochem* , **180**: 95-103.
- 19) Abd-Alla O., Gammaz H., El-Kashoury E. and **El-Shewy H.** (1994): Effect of total alkaloids of *Peganum harmala L.* on some hematological, biochemical parameters and parasitic infestation in rats. *Benha Vet Med J* , **5**: 70-90.
- 20) Opara E.C., Sykes Z. and **El-Shewy H. M.** (2003): Perturbation  $\beta$ -cell microtubule assembly: Effect on nutrient-stimulated insulin secretion. *Diabetes* 52 Suppl (1): A129 (Abstract).
- 21) Abdel-aleem S., Soloma S., **El-Shewy, H.** , Souka S., Taylor D. and Lowe J. (1997): Stimulation of oxidation of different chain length fatty acids by L. propionyl carnitine in cardiac myocytes. *J Mol Cell Card* , **29** (6): A 188 (Abstract).
- 22) Abdel-aleem S., **El-Shewy H.**, Soloma S., Thomas R., Abd-Alla O and Lowe J. (1997): Effects of extract of *Centuarea calcitraba* on glucose and fatty acid utilization in myocytes. *J Mol Cell Card* , **29** (6): A 188 (Abstract).
- 23) Kypson A., **El-Shewy H.**, Soloma S., Abd-Alla O., Lowe J. and Abdel-aleem S. (1997): Effects of chronic inhibition of fatty acid oxidation on stress tolerance in the heart. *J Mol Cell Card* , **29** (6): A 192 (Abstract).
- 24) St. Louis J., Hendrickson S., Zarouk W., **El-Shewy H.**, Lowe J. and Abdel-aleem S. (1997): Effects of L.carnitine on fatty acid oxidation in neonatal cardiac myocytes subjected to prolonged hypoxia. *J Mol Cell Card* , **29** (6): A 193 (Abstract).

### **Book Chapter:**

El-Shewy, H.M., and Luttrell, L.M. Insulin-like growth factor-2 /Mannose-6-Phosphate Receptors. In: *Vitamins & Hormones*. Volume 80. Pages 667-697 (2009). G.Litwack, editor-in-chief. Academic Press/Elsevier, Toluca Lake, CA.

**Teaching Experience:**

1990-2001: Clinical Pathology Course for the 4<sup>th</sup> year students at College of Veterinary Medicine, Suez Canal University, Egypt.

1998-2001: Advanced Course of Clinical Pathology to postgraduate students at College of Veterinary Medicine, Suez Canal University, Egypt.

**Mentoring:**

1. Marcus Darrabie (MD student) 2000-2001.
2. Brandi Kaye Freeman (MD student) 2001.
3. Theresa M. McCoy (MD student) 2001.
4. Zeporah Sykes (High School student) 2000-2001.
5. Yusuf Neville (High school student) 2001.
6. Adel Hassan (PhD candidate) 2000-2004.

**Scientific Training and Continued Education:**

- HPLC training seminar (Feb., 1997) RDU, NC, USA.
- Mechanism of immune recognition (May, 1997) Duke Univ. Med. Center, Durham, NC, USA.
- Workshop on: Recombinant DNA methodology, PCR, AFLP and DNA sequencing. (May, 1998) Suez Canal Univ., Ismailia, Egypt.
- Workshop on : Application of PCR and hybridization for diagnosis of M. tuberculosis and leukosis diseases. (Jan. 2000), Biotechnology center for services and research (BCSR), Fac. Vet. Med.,Cairo Univ.
- Workshop on: Clinical HPLC. (May, 2000), New Kasr El-aini hospital, Cairo Univ., Egypt.
- Grantsmanship workshop (April,2006), Medical University of Southe Carolina, Charleston, SC, USA.

**Scientific Conferences:**

- The American Heart Association (AHA), Orlando, FL, USA., Nov. 1997.
- The International Society for Heart Research (ISHR), Vancouver, Canada. July 1997.
- 25<sup>th</sup> anniversary of the Egyptian Society of Cardiology, Cairo, Egypt. Feb. 1998.
- Veterinary Medical Society for Pathology and Clinical Pathology, Ismailia, Egypt. Oct. 1998.
- Veterinary Medical Society for Pathology and Clinical Pathology, Cairo, Egypt Nov.1999.
- The Egyptian German Society of Zoology, Cairo, Egypt. March, 2000.
- North Central of Avian Disease Conference (NCADC), Columbus, Ohio, USA. Oct., 2000.
- The American Diabetes Association (ADA), Philadelphia, Pennsylvania. June,2001.
- The Society of Black Academic Surgeons (SBAS), Birmingham, AL. April,2003.
- American Society For Biochemistry and Molecular Biology (ASBMB), Boston, Massachusetts. June 12-16, 2004.
- The Endocrine Society, San Diego, CA. June 4-7, 2005.
- Gordon Research Conference (Glycolipid & Sphingolipid Biology). Lucca (Barga), Il Ciocco, Italy. February 17-22, 2008.
- The 90<sup>th</sup> Annual Meeting of the Endocrine Society, San Francisco, CA. June 15-18, 2008.

## **RESEARCH INTERESTS**

- 1) Pathophysiology of Diabetes mellitus.
- 2) Signal transduction of insulin and insulin like growth factor receptors.
- 3) Receptors cross-talk.
- 4) G protein- coupled receptors signaling.

## **REFERENCES**

- **LOUIS M. LUTTRELL, MD, PhD**, Prof. of Medicine and Chief Division of Endocrinology, Departments of Medicine and Prof. of Biochemistry and Molecular Biology. Medical University of South Carolina (MUSC), Charleston, SC, USA.  
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- **AYAD A. JAFFA, PhD**, Prof of Medicine, Medical University of South Carolina (MUSC), Charleston, SC, USA.  
Email Address: [jaffaa@musc.edu](mailto:jaffaa@musc.edu)  
Phone#: (843) 876-5245
- **LINA M. OBEID, MD, PhD.**, Boyle Prof. of Medicine and Prof. of Biochemistry and Molecular Biology, Medical University of South Carolina (MUSC).  
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- **EMMANUEL C. OPARA, PhD.**, Assistant Research Prof. Department of Biomedical Engineering. Illinois institute of Technology. 10 West 32<sup>nd</sup> street, EI-116. Chicago, IL 60616-3799. USA.  
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- **MOHAMED I. DOSOUKY, DMV, MVSc, PhD.**, Prof. of Clinical Pathology, Fac. Vet. Med., Cairo Univ., Cairo, Egypt.  
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