**İbrahim Benter BS, PhD, FAHA(Fellow of American Heart Association)**

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**Personal Information** **Name – Ibrahim BENTER, BS / PhD / FAHA (Fellow of American Heart Association)**

**Address – Lefkoşa, Cyprus**

**Telephone – Mobile: +90 533 826 4145**

**Date/Place of Birth – 1962/Cyprus**

**Career highlights 1.Published 80+ papers in top journals of Medicine.**

**2.Showed that angiotensin-( 1-7 ) could be developed into a drug for treatment of cardiovascular and inflammatory diseases.**

**3.Papers have been cited more than six thousand times (6500+),**

**(H-index=40)**

**4.Part of the team that revised the curriculum at Faculty of Medicine at Kuwait University into an integrated curriculum that involves problem based learning.**

**5.Received numerous awards for teaching and research in USA and Kuwait.**

**6. Won and managed more than $5 million as Research Grants.**

**Education Türk Maarif Koleji, Nicosia – Cyprus (1974-1979)**

**Loughborough Technical College, Loughborough - UK**

**GCE A Levels: Physics, Chemistry, Biology (1979-1981)**

**University of Florida, B.S., Faculty of Arts & Sciences**

**Gainesville, Florida – USA, Major: Chemistry (1982-1985)**

**New York Medical College, Graduate Student, New York - USA**

**Major: Pharmacology, transferred to the Ohio State University with advisor Prof Patrick E. Ward (1986-1988)**

**The Ohio State University, Ph.D., Columbus, Ohio - USA**

**Department of Pharmacology, College of Medicine,**

**Major: Pharmacology (1988-1991)**

**University of Dundee, Masters Course in Medical Education,**

**Centre for Medical Education (2004–2005)**

Contents

[**Professional Experience 3**](#_Toc341612821)

[**Awards and Honors 4**](#_Toc341612822)

[**Editorial Services 5**](#_Toc341612823)

[**Professional Affiliations 5**](#_Toc341612824)

[**Committee Activities 5**](#_Toc341612825)

[**Teaching Summary 8**](#_Toc341612826)

[**Research Activities 11**](#_Toc341612827)

[**Publications 16**](#_Toc341612828)

[**Abstracts 28**](#_Toc341612829)

Professional Experience **University of Florida, Gainesville, Florida – USA**

**Teaching Assistant, Department of Chemistry ( 1984 - 1985 )**

**New York Medical College, New York – USA**

**Research & Teaching Assistant, Departments of Physiology and Pharmacology ( 1986 - 1988 )**

**The Ohio State University, Columbus, Ohio – USA**

**Teaching & Research Assistant, Department of Pharmacology**

**College of Medicine (1988 - 1991 )**

**The Cleveland Clinic Foundation, Cleveland, Ohio – USA**

**Research Fellow, Department of Brain and Vascular Research (1991 - 1992 )**

**Wake Forest University School of Medicine, North Carolina – USA**

**Research Scientist, Hypertension Research Center (1992 - 1994 )**

**University of Tennessee, College of Medicine, Tennesse – USA**

**Adjunct Professor of Pharmacology, ( 1994 – 2000 )**

**Southern College of Optometry, Memphis, Tennesse – USA**

**Assistant Professor of Pharmacology ( 1994 – 1999 )**

**Associate Professor of Pharmacology ( Jan 2000 – May 2000 )**

**Kuwait University, Dept of Pharmacology, Faculty of Medicine Associate Professor ( June 2000 – March 2008 )**

**Professor (March 2008 – 2014 )**

**Chairman ( May 2002 – June 2009 )**

**Cardiff University, School of Pharmacy, Cardiff, UK**

**Visiting Professor, Centre for Genome-Based Therapeutics, ( May 2005 – September 2005 and May 2007 – September 2007)**

**Oxford University, Oxford, UK**

**Visiting Professor, Dept of Pharmacology,**

**( August 2012 – July 2013 )**

**Cyprus Evkaf Administration, Nicosia, Cyprus**

**Director (2014-2023)**

**Eastern Mediterrenean University, Faculty of Medicine, Cyprus**

**Professor (2014-present)**

Awards and Honors **1989 - First Prize: Bennett Graduate Research Society, Fifth Annual Research Day the Ohio State University, College of Medicine, USA**

**1990 - First Prize: Bennett Graduate Research Society, Fifth Annual Research Day the Ohio State University, College of Medicine, USA**

**1994 - First Prize: Resident’s & Fellows Research Day, Wake Forest University School of Medicine**

**1994 - American Society of Hypertension Travel Award**

**1996 - New Investigator Award, American Heart Association, USA**

**1998 - Elected Fellow of High Blood Pressure Research Council American Heart Association, USA**

**1999 - Recognition for serving as a mentor for the students in the 1999 Young Memphis Scholars Program at University of Tennessee Memphis**

**2000 - Teacher of the Year Award, Southern College of Optometry, USA**

**2002 - Best Teacher Award, Kuwait University Medical Student Association**

**2003 - Best Teacher Award, Kuwait University Medical Student Association**

**2004 - Best Basic Medical Science Research Award 9th Health Sciences Centre Poster Conference, Kuwait University**

**2005 - Best Basic Medical Science Research Award 10th Health Sciences Centre Poster Conference, Kuwait University**

**2006 - Best Basic Medical Science Research Award 11th Health Sciences Centre Poster Conference, Kuwait University**

**2004 - Best Teacher Award Kuwait University Medical Student Association Faculty of Medicine, Kuwait University, Kuwait**

**2005 - Best Teacher Award Kuwait University Medical Student Association Faculty of Medicine, Kuwait University, Kuwait**

**2006 - Best Teacher Award Kuwait University Medical Student Association Faculty of Medicine, Kuwait University, Kuwait**

**2006 - Elected member of American Physiological Society**

**2008 - Best Basic Medical Science Research Award 13th Health Sciences Centre Poster Conference, Kuwait University**

**2012 - Best Undergraduate Basic Medical Science Research Award**

**17th Health Sciences Centre Poster Conference, Kuwait University**

Editorial Services **1. Frontiers in Physiology - Review Editorial Board Member**

**2. Referee Editor in the following journals: Hypertension, Cardiovascular Research, Journal of Pharmacology & Experimental Therapeutics, Journal of Drug Targeting, American Journal of Hypertension, British Journal of Pharmacology**

Professional Affiliations **1. The American Society of Pharmacology & Experimental Therapeutics**

**2. The American Society of Hypertension**

**3. European Society of Hypertension**

**4. High Blood Pressure Research Council, American Heart**

**Association**

**5. American Physiological Society**

**6. International Society of Hypertension**

Committee Activities **Southern College of Optometry, Memphis, TN – USA. Coordinator of Medical Pharmacology course ( 1994 - 2000 )**

**Southern College of Optometry, Memphis, TN – USA.** **Coordinator of Medical Pharmacology Examination Committee ( 1994 - 2000 )**

**Southern College of Optometry, Memphis, TN – USA.** **Coordinator of Physiology Laboratory course ( 1994 - 2000 )**

**Southern College of Optometry, Memphis, TN – USA.** **Member of the University Research Committee ( 1997 - 2000 )**

**Southern College of Optometry, Memphis, TN – USA.** **Member of the University Awards Committee ( 1998 - 2000 )**

**Southern College of Optometry, Memphis, TN – USA.** **Member of the Faculty Affairs Committee ( 1998 - 2000 )**

**Southern College of Optometry, Memphis, TN – USA.** **Organizer of workshops for training junior faculty in writing research manuscripts ( 1996 - 2000 )**

**Southern College of Optometry, Memphis, TN – USA** **Organizer of Hypertension Journal Club ( 1996 - 2000 )**

**University of Tennessee, Memphis, TN – USA.** **Trained students in the Young Memphis Scholars Program at University of Tennessee Memphis where high school students conducted summer research ( 1998 - 2000 )**

**Southern College of Optometry, Memphis, TN – USA.** **Director of Preventative Health ( 1999 - 2000 )**

**Kuwait University, Faculty of Medicine** - **Member of Examination Committee at Department of Pharmacology & Toxicology ( 2000 - 2012 )**

**Kuwait University, Faculty of Medicine** - **Coordinator of Medical/Dental Pharmacology Course at Department of Pharmacology & Toxicology ( 2001 - 2004 )**

**Kuwait University** - **Member of Central Organizing Committee for the International Conference: Applications of Molecular Biology in Modern Medicine ( 2004 )**

**Kuwait University, Faculty of Medicine** - **Member of Medical Research Council ( 2001 - 2007 )**

**Commitee Activities ( cont.) Kuwait University, Faculty of Medicine** - **Member of New Medical Curriculum Phase II Review Group ( 2006 - 2009 )**

**Kuwait University, Faculty of Medicine** - **Member of New Medical Curriculum Phase II Examination Committee ( 2006 - 2009 )**

**Kuwait University, Faculty of Medicine** - **Chairman, Department of Pharmacology and Toxicology ( 2002 - 2009 )**

**Kuwait University, Faculty of Medicine** - **Member of TDM/Toxicology Service Committee Dept of Pharmacology & Toxicology ( 2003 - 2009 )**

**Kuwait University, Faculty of Medicine** - **Member of Departmental Appointments and Promotion Committee ( 2002 - 2009 )**

**Kuwait University, Faculty of Medicine** - **Chairman of the Organizing Committee of the 11th Annual Health Sciences Poster Conference, Invited Nobel Laureate Sir Martin Evans who discovered stem cells ( 2005 - 2006 )**

**Kuwait University, Faculty of Medicine** - **Chairman of Departmental Scholarship Committee ( 2003 - 2009 )**

**Kuwait University, Faculty of Medicine** - **Member of Graduate Comprehensive Exam Committee ( 2004 - 2008 )**

**Kuwait University, Faculty of Medicine** - **Director of TDM/Toxicology Service laboratory at Department of Pharmacology & Toxicology ( 2006 - 2009 )**

**Kuwait University, Faculty of Medicine** - **Member of the Organizing Committee of International Conference: Therapeutic Drug Monitoring-Clinical Toxicology Meeting ( 2009 )**

***Dr. Michael Greenberg, President of American Academy of Clinical Toxicology, Temple University Program Director of Medical Toxicology; Chief of Division of Medical Toxicology; Professor of Emergency Medicine, was invited.***

***I initiated collaboration with Dr Greenberg to establish the first Toxicology Center in Kuwait that would work in coordination with the Philadelphia Temple University Toxicology Center.***

**Kuwait University, Faculty of Medicine** - **Representative to Faculty Scientific Affairs Committee ( 2009 - Present )**

**Kuwait University, Faculty of Medicine** - **Coordinator of Department Research Committee ( 2009 - 2012 )**

**Kuwait University, Faculty of Medicine** - **Member of Department Graduate Program Committee ( 2009 - 2012 )**

**Commitee Activities ( cont.) Kuwait University, Faculty of Medicine** - **Coordinator of Molecular Pharmacology course ( 2009 - 2012 )**

**Kuwait University, Faculty of Medicine** - **Coordinator of Experimental Techniques course ( 2009 - 2012 )**

**Kuwait University, Faculty of Medicine** - **Module representative for Reproductive/Renal/Breast Module ( 2009 - 2012 )**

**Kuwait University, Faculty of Medicine** - **Member of Committee to select chairman of Dept of Anatomy ( 2012 )**

**Kuwait University, Faculty of Medicine** - **Chairman, Academic Accreditation Committee ( 2011 - 2014 )**

**Kuwait University, Faculty of Medicine** - **Member of Committee to select chairman of Dept of Biochemistry ( 2012 )**

Teaching Summary **Southern College of Optometry and College of Medicine, University of Tennessee - USA**

**Teaching responsibilities at undergraduate level were:**

**1. Drug-Receptor Interactions**

**2. Pharmacodynamics I-IV**

**3. Pharmacokinetics I-V**

**4. Principles of Autonomic Nervous Sytem I-VI**

**5. Cardiovascular System I-V**

**6. Endocrine Pharmacology I-IV**

**7. Chemotherapy I-VII**

**8. Neuropharmacology I-V**

**Teaching responsibilities at graduate level were:**

**Cardiovascular system lectures were given at the graduate level at College of Medicine, University of Tennessee.**

**Faculty of Medicine, Kuwait University - Kuwait**

**Teaching responsibilities at undergraduate level given for Medical, Dental and Pharmacutical students were:**

**1. Introduction to Pharmacology**

**2. Pharmacokinetics I – drug absorption**

**3. Pharmacokinetics II – drug distribution**

**4. Pharmacokinetics III – drug metabolism I**

**5. Pharmacokinetics IV – drug metabolism II**

**6. Pharmacokinetics V – drug excretion**

**7. Pharmacokinetics VI**

**8. Pharmacokinetics VII**

**9. Pharmacokinetics Tutorial**

**10. Pharmacogenomics**

**11. Polypeptides**

**12. Treatment of hypertension – I**

**13. Treatment of hypertension – II**

**14. Treatment of cardiac arrhythmias**

**15. Introduction antimicrobials**

**16. Antibacterials – I**

**17. Antibacterials – II**

**18. Antibacterials – III**

**19. Antibacterials – IV**

**20. Antibacterials – V**

**21. Antibacterials – VI**

**22. Antibacterials - VII**

**23. Case study group discussions (autonomic nervous system, cardiovascular pharmacology, autacoids, eicosanoids, NSAIDs, hormones, antibacterials, drug interactions, toxicology).**

**Undergraduate Problem Based Learning (PBL) Facilitator for the following modules: Foundation, Cardiovascular, Reproduction/Renal/Breast, Endocrine, CNS, Respiratory.**

**Teaching responsibilities at graduate level given for Medical, Dental and Pharmacutical students were:**

**1. Cardiovascular Pharmacology**

**2. Molecular Pharmacology**

**3. Molecular Medicine**

**4. Principles of Pharmacology I and II**

**5. Experimental Techniques**

**In addition, teaching responsibilities also included coordination the following graduate courses:**

1. **Molecular Pharmacology**
2. **Experimental Techniques**

**Graduate Student Supervision Summary:**

**2003 - Thesis Committee member, Lamia Hoteit, awarded M.Sc. in Physiology.**

**2005 - Thesis Supervisor, Nisreen G. Hares, awarded M.Sc. in Pharmacology & Toxicology.**

**2006 - Thesis Supervisor, Fatma M. Al-Saleh, awarded M.Sc. in Pharmacology & Toxicology.**

**2006 - Thesis Committee, Osama Rashid, awarded M.Sc. in Biochemistry.**

**2008 - Thesis Supervisor, Mohammed Al-Mulla awarded M.Sc. in Physiology**

**2008 - Thesis supervisor: Batool Makki, awarded MSc in Pharmacology & Toxicology**

**2010 - Thesis Supervisor, Najla Marafie awarded MSc in Pharmacology & Toxicology**

**2010 - Thesis Co-supervisor: Omama Al-Farisi awarded MSc in Pharmacology & Toxicology**

**2010 - Thesis Supervisor, Haifa’a J. Al-Otaibi awarded MSc in Pharmacology & Toxicology**

**2011 - Thesis Supervisor, Bashayer Baroon awarded MSc in Pharmacology & Toxicology**

**2012 - Thesis Supervisor, Amal Al-Sumairi awarded MSc in Pharmacology**

**2012 - Thesis Committee, Fatma Al-Rashidi awarded MSc in Molecular Biology**

Research Activities **Research Areas of Interest and Track record**

**Treatment of hypertension- and diabetes-induced cardiovascular dysfunction.**

**Characterizing the role of Angiotensin-(1-7), EGFR and that of cytochrome P450 metabolites of arachidonic acid in the development/treatment of hypertension- and diabetes-induced organ dysfunction (cardiac-, vascular- and erectile-dysfunction).**

**My research group has a long track history in the study of the role of Angiotensin–(1-7) and that of cytochrome P450 metabolites of arachidonic acid in cardiovascular diseases including hypertension, diabetes and more recently in erectile dysfunction. Indeed, my research group was the first to show that:**

**1.Angiotensin-(1-7) can decrease blood pressure.**

**Benter IF, et al. Cardiovascular actions of angiotensin-(1-7). Peptides 1993; 14(4):679-84.**

**2.Ang-(1-7) produces vasodilation by acting through a unique (non-AT1/AT2) receptor & release of prostaglandins.**

**Benter IF, et al. Cardiovascular actions of angiotensin-(1-7). Peptides 1993; 14(4):679-84.**

**3. Ang-(1-7) has anti-hypertensive effects.**

**Benter IF, et al. Antihypertensive actions of angiotensin-(1-7) in spontaneously hypertensive rats. American Journal of Physiology 1995; 269:H313-319.**

**Benter IF, et al. Angiotensin-(1-7) prevents development of severe hypertension and end-organ damage in spontaneously hypertensive rats treated with L-NAME.American Journal of Physiology Heart Circ Physiol. 2006; 290(2):H684-H691.**

**4.Ang-(1-7) can prevent diabetes-induced cardiovascular dysfunction.**

**Benter IF, et al. Angiotensin-(1-7) prevents diabetes-induced cardiovascular dysfunction. American Journal of Physiology Heart Circ Physiol. 2007; 292(1):H666-H672.**

**5.Ang-(1-7) can inhibit oxidative stress.**

**Benter IF, et al. Angiotensin-(1-7) prevents activation of NADPH oxidase and renal vascular dysfunction in diabetic hypertensive rats. American Journal of Nephrology 2008; 28(1):25-33.**

**6.Ang-(1-7) has beneficial effects on corpus cavernosum.**

**Yousif MH, Kehinde EO, Benter IF. Different responses to angiotensin-(1-7) in young, aged and diabetic rabbit corpus cavernosum. Pharmacological Research 2007; 56(3):209-216.**

**7. Ang-(1-7) can inhibit inflammation.**

**Al-Maghrebi M, Benter IF, Diz DI. Endogenous angiotensin-(1-7) reduces cardiac ischemia-induced dysfunction in diabetic hypertensive rats. Pharmacological Research 2009;59:263-268.**

**8.Characterization of the role of CYP P450 metabolites of AA in regulation of corporal smooth muscle tone in diabetic and older rats.**

**Yousif MH & Benter IF. Vascular Pharmacology 2007; 47:281-287.**

**9.Characterization of the role of CYP P450 metabolites of AA in regulation of cardiac and vascular function in diabetic rats.**

**Yousif MH, Benter IF, Roman RJ. Cytochrome P450 metabolites of arachidonic acid play a role in the enhanced cardiac dysfunction in diabetic rats following ischaemic reperfusion injury. Autonomic & Autacoid Pharmacology 2009; 29:33-41. Yousif MH, Benter IF, et al. Role of 20-hydroxyeicosatetraenoic acid in altering vascular reactivity in diabetes. Autonomic & Autacoid Pharmacology 2009; 29:1-12.**

**Research/teaching laboratories established at Kuwait University Faculty of Medicine:**

* **Established Cardiovascular Research Laboratory, Department of Pharmacology and Toxicology**
* **Established Departmental Shared Facility laboratory, Department of Pharmacology and Toxicology**
* **Established Molecular Core Facility laboratory, Department of Pharmacology and Toxicology**
* **Established TDM/Toxicology Service laboratory, Department of Pharmacology and Toxicology**

**Research Collaborations**

**1. Debra I. Diz, PhD, FAHA**

**Professor and Director, Hypertension & Vascular Research Center**

**Professor, General Surgery, Division of Surgical Sciences**

**Professor, Department of Physiology & Pharmacology**

**Wake Forest University School of Medicine, North Carolina, USA**

**2. Antony Galione FMedSci**

**Professor and Head of Pharmacology, Oxford University**

**Department of Pharmacology**

**Oxford University**

**Oxford, UK**

**3. J. Russel Falck, PhD**

**Robert A. Welch Distinguished Chair in Chemistry**

**Professor of Pharmacology**

**Professor of Biochemistry**

**University of Texas Southwestern Medical Center**

**Dallas, USA**

**4. Kafait U. Malik, PhD**

**Professor, Dept of Pharmacology, College of Medicine**

**University of Tennessee**

**Memphis, USA**

**5. Drs. Mariam Yousif, Gursev Dhaunsi, Waleed Reno, Marion Turcani, Issam Francis, Elijah Kehinde**

**Departments of Pharmacology, Physiology, Anatomy, Pathology, Medicine, Surgery, Faculty of Medicine, Kuwait University.**

**6. Prof Saghir Akhtar, Qatar University College of Medicine.**

**Research Projects in Kuwait**

**1. Characterization of signaling pathways in hypertension using microarray-based global gene expression profiling.**

**Funding Agency: Kuwait University Research Administration**

**Project number: RM02/03 Total budget: $235,000.00 USD**

**Role in the project: Principle Investigator**

**Status: Completed Rated: Excellent**

**2. Role of endogenous Angiotensin-(1-7) in preventing diabetes-induced cardiac dysfunction.**

**Funding Agency: Kuwait University Research Administration**

**Project No: YM 15/07 Total budget: $20,000.00 USD**

**Role: Principal investigator**

**Status: Completed Rated: Excellent**

**3. Understanding the role of epidermal growth factor signaling in angiotensin-(1-7)-mediated cardioprotection in diabetes.**

**Funding Agency: Kuwait University Research Administration**

**Project No: YM 06/08 Total budget: $20,000.00 USD**

**Role: Co-Investigator**

**Status: Completed Rated: Excellent**

**4. Mechanisms involved in anti-hypertensive effects produced by inhibitors of Ras GTPase/MAP kinase in deoxycorticosterone-salt-induced hypertension.**

**Funding Agency: Kuwait University Research Administration**

**Project number: MR03/00 Total budget: $15,000.00 USD**

**Role in the project: Co-Investigator**

**Status: Completed Rated: Excellent**

**5. Characterization of the effects of preconditioning and Ras-GTPase inhibition on left ventricular gene expression profiles in the globally ischemic heart.**

**Funding Agency: Kuwait University Research Administration**

**Project number: RM01/04 Total budget: $22,000.00 USD**

**Role in the project: Co-Investigator**

**Status: Completed Rated: Excellent**

**6. Maintenance, upgrade, and running cost funding for existing shared lab facility in the faculty of Medicine.**

**Funding Agency: Kuwait University Research Administration**

**Project number: GM01/01 Total budget: $450,000.00 USD**

**Role in the project: Co-Investigator**

**Status: ongoing**

**7. Effect of acute inhibition of soluble epoxide hydrolase in prevention of hypertension- induced vascular dysfunction.**

**Funding Agency: Kuwait University Research Administration**

**Project number: (MR 03/06) Total budget: $22,000.00 USD**

**Role in the project: Co-Investigator**

**Status: Completed Rated: Excellent**

**8. Effects of acute Ras-GTPase mediated signaling pathway inhibition in the ovine model of acute regional myocardial ischemia.**

**Name of the funding institute: KFAS**

**Project number: XK04/05 Total budget: $125,000.00 USD**

**Role in the project: Co-investigator**

**Status: pending**

**9. Understanding the role of epidermal growth factor signaling in angiotensin-(1-7) mediated cardioprotection in diabetes.**

**Funding Agency: Kuwait University Research Administration**

**Project number: YM09/08 Total budget: $15,000.00 USD**

**Role in the project: Principal Investigator**

**Status: Completed Rated: Excellent**

**10. Does angiotensin-(1-7) prevent diabetes-induced vascular dysfunction via inhibition of epidermal growth factor receptor signaling?**

**Funding Agency: Kuwait University Research Administration**

**Project number: YM06/08 Total budget: $20,000.00 USD**

**Role in the project: Co-Investigator**

**Status: ongoing**

**11. Characterization of angiotensin-(1-7)-mediated cardioprotection in diabetes.**

**Funding Agency: Kuwait University Research Administration**

**Project No. (YM 15/07) Total budget: $145,000.00 USD**

**Role: Principal investigator**

**Research Team: Dr. G. Dhaunsi (Co-Investigator), Batool Makki (M.Sc Graduate student).**

**Status: Completed Rated: Excellent**

**12. Impact of pregnancy on the pharmacokinetics of topiramate in rabbits.**

**Funding Agency: Kuwait University Research Administration**

**Project number: YM11/08 Total budget: $15,000.00 USD**

**Role in the project: Principal Investigator**

**13. Studies on the signalling mechanisms that contribute to the effects of angiotensin-(1-7) in diabetes-induced erectile dysfunction.**

**Funding Agency: Kuwait University Research Administration**

**Research Project No. (MR 04/09) Total budget: $230,000.00 USD**

**Role: Co-Investigator**

**Research Team: Drs. M. Yousif (P.I), S. Akhtar & G. Dhaunsi (Co-Investigators).**

**Postdoctoral researchers trained**

**1. Dr. N. A. Karzoun. (1997 - 1999) University of Tennessee, School of Medicine - U.S.A.**

**2. Dr. Ahmed H. Abul (2007-2009) Department of Pharmacology, Faculty of Medicine – Kuwait University**

**3. Dr Ahmed Al-Turki (2009-present) Department of Pharmacology, Faculty of Medicine – Kuwait University**

Publications **Journal Articles**

**1. Stier CT Jr, Benter IF, Levine S. Thromboxane A2 in severe hypertension and stroke in stroke-prone spontaneously hypertensive rats. Stroke 19:1145-1150, 1988.**

**2.Stier CT Jr, Benter IF, Ahmad S, Zuo HL, Selig N, Roethel S, Levine S, Itskovitz HD. Enalapril prevents stroke and kidney dysfunction in salt-loaded stroke-prone spontaneously hypertensive rats.**

**Hypertension 13:115-121, 1989.**

**3.Benter IF, Hirsh EM, Tuchman AJ, Ward PE. N-terminal degradation of low molecular weight opioid peptides in human cerebrospinal fluid. Biochemical Pharmacology 40:465-472, 1990.**

**4.Ward PE, Benter IF, Dick L, Wilk S. Metabolism of vasoactive peptides by plasma and purified renal aminopeptidase M.**

**Biochemical Pharmacology 40:1725-1732, 1990.**

**5.Wang LH, Ahmad S, Benter IF, Chow A, Mizutani S, Ward PE. Differential processing of substance P and neurokinin A by plasma dipeptidyl (amino) peptidase IV, aminopeptidase M and angiotensin converting enzyme.**

**Peptides 12:1357-1364, 1991.**

**Publications ( cont.) 6.Benter IF, Diz DI, Ferrario CM. Cardiovascular actions of angiotensin(1-7). Peptides 14:679-684, 1993.**

**7.Benter IF, Ferrario CM, Morris M, Diz DI. Antihypertensive actions of angiotensin-(1-7) in spontaneously hypertensive rats.**

**American Journal of Physiology 269:H313-H319, 1995.**

**8.Benter IF, Diz DI, Ferrario CM. Pressor and reflex sensitivity is altered in spontaneously hypertensive rats treated with angiotensin-(1-7).**

**Hypertension 26:1138-1144, 1995.**

**9.Muthalif MM, Benter IF, Uddin MR, Malik KU. Calcium/calmodulin-dependent protein kinase IIalpha mediates activation of mitogen-activated protein kinase and cytosolic phospholipase A2 in norepinephrine-induced arachidonic acid release in rabbit aortic smooth muscle cells.**

**Journal of Biological Chemistry 271:30149-30157, 1996.**

**10. Benter I.F. Significance of angiotensin-(1-7) in treatment of hypertension. New Journal of Medicine 14:7-9, 1997.**

**11. Benter I.F., and Ward P.E. Enkephalin metabolism by human plasma and endothelial peptidases. Pharmacology Reviews and Communications 9:99-106, 1997.**

**12. Benter I.F., Mizutani S., Tomada Y. and Ward P.E. Metabolism of angiotensin peptides and analogs by human plasma and vasculature. Turkish Journal of Medical Sciences 27:113-119, 1997.**

**13. Diz DI, Fantz DL, Benter IF, Bosch SM. Acute depressor actions of angiotensin II in the nucleus of the solitary tract are mediated by substance P. American Journal of Physiology 273:R28-R34, 1997.**

**14. Muthalif MM, Benter IF, Uddin MR, Harper JL, Malik KU. Signal transduction mechanisms involved in angiotensin-(1-7)-stimulated arachidonic acid release and prostanoid synthesis in rabbit aortic smooth muscle cells. Journal of Pharmacology and Experimental Therapeutics 284:388-398, 1998.**

**Publications ( cont.) 15. Uddin MR, Muthalif MM, Karzoun NA, Benter IF, Malik KU. Cytochrome P-450 metabolites mediate norepinephrine-induced mitogenic signaling. Hypertension 31:242-247, 1998.**

**16. Zagvazdin Y, Reiner A, Benter IF. Central nervous system is not involved in initiation of the pressor effect of 7-nitroindazole in urethane-anesthetized rats. Hypertension 31:719-721, 1998.**

**17. Zagvazdin Y, Reiner A, Benter IF. How selective is 7-nitroindazole, an inhibitor of neuronal nitric oxide synthase? Anesthesia and Analgesia 86:679-680, 1998.**

**18. Muthalif MM, Benter IF, Karzoun N, Fatima S, Harper J, Uddin MR, Malik KU. 20-Hydroxyeicosatetraenoic acid mediates calcium/calmodulin-dependent protein kinase II-induced mitogen-activated protein kinase activation in vascular smooth muscle cells. Proceedings of National Academy of Sciences USA 95:12701-12706, 1998.**

**19. Muthalif MM, Benter IF, Khandekar Z, Gaber L, Estes A, Malik S, Parmentier JH, Manne V, Malik KU. ontribution of Ras GTPase/MAP kinase and cytochrome P450 metabolites to eoxycorticosterone-salt-induced hypertension.**

**Hypertension 35:457-463, 2000.**

**20. Muthalif MM, Parmentier JH, Benter IF, Karzoun N, Ahmed A, Khandekar Z, Adl MZ, Bourgoin S, Malik KU. Ras/mitogen-activated protein kinase mediates norepinephrine-induced phospholipase D activation in rabbit aortic smooth muscle cells by a phosphorylation-dependent mechanism. Journal of Pharmacology and Experimental Therapeutics 293:268-274, 2000.**

**21. Muthalif MM, Karzoun NA, Gaber L, Khandekar Z, Benter IF, Saeed AE, Parmentier JH, Estes A, Malik KU. Angiotensin II-induced hypertension: contribution of Ras GTPase/Mitogen-activated protein kinase and cytochrome P450 metabolites. Hypertension 36:604-609, 2000.**

**22. Muthalif MM, Karzoun NA, Benter IF, Gaber L, Ljuca F, Uddin MR, Khandekar Z, Estes A, Malik KU. Functional significance of activation of calcium/calmodulin-dependent protein kinase II in angiotensin II--induced vascular hyperplasia and hypertension. Hypertension 39:704-709, 2002.**

**23. Yousif MH, Benter IF, Akhtar S. Inhibition of calcium/calmodulin-dependent protein kinase II normalizes diabetes-induced abnormal vascular reactivity in the rat perfused mesenteric vascular bed. Autonomic & Autacoid Pharmacology 23:27-33, 2003.**

**24. Omidi Y, Hollins AJ, Benboubetra M, Drayton R, Benter IF, Akhtar S. Toxicogenomics of non-viral vectors for gene therapy: a microarray study of lipofectin- and oligofectamine-induced gene expression changes in human epithelial cells. Journal of Drug Targeting 11:311-323, 2003.**

**25. Petch AK, Sohail M, Hughes MD, Benter I, Darling J, Southern EM, Akhtar S. Messenger RNA expression profiling of genes involved in epidermal growth factor receptor signalling in human cancer cells treated with scanning array-designed antisense oligonucleotides. Biochemical Pharmacology 66:819-30, 2003.**

**Publications ( cont.) 26. Beale G, Hollins AJ, Benboubetra M, Sohail M, Fox SP, Benter I, Akhtar S. Gene silencing nucleic acids designed by scanning arrays: anti-EGFR activityof siRNA, ribozyme and DNA enzymes targeting a single hybridization-accessible region using the same delivery system. Journal of Drug Targeting 11:449-456, 2003.**

**27. Yousif MH, Benter IF, Abraham S, Akhtar S. Inhibition of Ras-GTPase improves diabetes-induced abnormal vascular reactivity in the rat perfused mesenteric vascular bed. Medical Principles and Practice 13:57-62, 2004.**

**28. Benter IF, Juggi JS, Khan I, Akhtar S. Inhibition of Ras-GTPase, but not tyrosine kinases or Ca2+/calmodulin-dependent protein kinase II, improves recovery of cardiac function in the globally ischemic heart. Molecular and Cellular Biochemistry 259:35-42, 2004.**

**29. Hussain M, Shchepinov M, Sohail M, Benter IF, Hollins AJ, Southern EM, Akhtar S. A novel anionic dendrimer for improved cellular delivery of antisense oligonucleotides. Journal of Controlled Release 99:139-55, 2004.**

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