

## CURRICULUM VITAE

### **Personal Details**

Name: Dr. Muhammad Farooq  
Date of Birth: 25-12-1969  
Nationality: Pakistani

### **Contact Details**

Associate professor,  
Department of Zoology, College of Science, King Saud University,  
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### **Education and career**

#### **Academic Qualifications:**

**2000- 2003    Ph.D. (Molecular Biology)**  
School of Medicine, Department of Immunology, Kyungpook National University,  
Daegu, South Korea.

**1998-2000    M.Sc. (Molecular Biology)**  
School of Medicine, Department of Immunology, Kyungpook National University,  
Daegu, South Korea.

**1992-1996    BSc (Animal Husbandry)**  
N.W.F.P. Agricultural University, Peshawar, Pakistan

### **Academic Career**

#### **Associate professor**

*June 2015- Current*

Department of Zoology, College of Science, King Saud University, Kingdom of Saudi Arabia.

#### **Assistant Professor**

*22-12- 2008- May 20015*

Department of Zoology, College of Science, King Saud University, Kingdom of Saudi Arabia

#### **Assistant professor**

*Feb- 2007-Dec-2008*

Institute of Biotechnology, Faculty of Science, Bahuddin Zakariya University, Multan, Pakistan

## **Research carrier**

### **Post doctorate fellow/Senior Research Fellow.**

2003- 2008

Department of Biological Sciences, Faculty of Science, National University of Singapore, Singapore

### **Graduate student cum researcher**

2000-2003

Trichogene, Department of Immunology, School of medicine, Kyungpook National University, Daegu, South Korea

## **Research activities**

- 1- Research activities in “Bio-products research chair” in department of zoology, College of Science, King Saud University, Saudi Arabia. I am actively involved in various research activities and have established functional lab for molecular biology and research lab for zebrafish to be used as drug screening model.
- 2- I have secured two National strategic plan projects from King Abdul Aziz city of science and technology. One has been successfully completed and other has been approved and am waiting for the funding
- 3- Member of research group Deanship of Scientific Research at King Saud University research group Number. RGP-VPP-127.

## **Research interests**

- 1- Histone Deacetylase (HDACs) enzymes: a new therapeutic targets for cancer treatment
- 2) Zebrafish:- A human Disease, preclinical, and drug screening model organism
- 3) Development of synthetic and natural anti-angiogenic molecules for cancer treatment

## Publication

### Papers (Published)

1. Elsayed EA, Farooq M, Dailin D, El-Enshasy HA, Othman NZ, Malek R, Danial E, Wadaan M. **2017**. In vitro and in vivo biological screening of kefir polysaccharide produced by *Lactobacillus kefirifaciens*. Biomedical Research 2017; 28 (2): 594-600
2. Fahd A. Nasr<sup>1</sup>, Nael Abutaha<sup>1</sup>, Al-Zharani Mohammad<sup>1</sup>, Muhammed Farooq<sup>1</sup>, Muhammad A. Wadaan. In Vitro Cytotoxicity Screening of Plant Extracts from Riyadh (Saudi Arabia) on MDA-MB-231 Breast Cancer Cell Line. tropical journal of pharmaceutical research (accepted)
3. C. T. Dongmo, H. Hussain, H. J. M. Boukeng, N. U. Rehman, **M. Farooq**, M. A. M. Wadaan, E. Dongo, A. Al-Harrasi (**2016**). Ozoromide: A New Ceramide from the Stem Bark of *Ozoroa pulcherrima*. *Chemistry of Natural Compounds* (Accepted).
4. Hussain B, Sultana T, Sultana S, Mahboob S, **Farooq M**, Al-Ghanim K, Nadeem S. First report on fish cysteine as a biomarker of contamination in the River Chenab, Pakistan. Environ Sci Pollut Res Int. 2016 Apr 27
5. **Muhammad Farooq**\*, Nael Abu Taha , Rachel R. Butorac , Daniel Anthony Evans , Ahmed A. Elzatahry , Elsayed Ahmed Elsayed, Mohammad A. M. Wadaan , Salem S. Al-Deyab 5 and Alan H. Cowley (2015). Biological Screening of Newly Synthesized BIAN N-Heterocyclic Gold Carbene Complexes in Zebrafish Embryos. *Int. J. Mol. Sci.* **2015**, 16, 24718-24731
6. Ayman El-Faham,\* **Muhammad Farooq**\*, Sherine N. Khattab, Nael Abutaha, Mohammad A. Wadaan, Hazem A. Ghabbour and Hoong-Kun Fun. (2015). Synthesis, Characterization, and Anti-Cancer Activity of Some New N' -(2-Oxoindolin-3-ylidene)-2-propylpentane hydrazide-hydrazones Derivatives. *Molecules* 2015, 20, 14638-14655.
7. **Muhammad Farooq**\*, Nael Abu Taha, Rachel R Butorac, Daniel A Evans, Ahmed A Elzatahry, Mohammad AM Wadaan, Alan H Cowley. (2015) BIAN N-Heterocyclic Gold Carbene Complexes induced cytotoxicity in human cancer cells via upregulating oxidative stress Asian Pacific Journal of Cancer Prevention, Vol 16, **2015** 7003-06
8. Nael Abutaha · Ashraf M. A. Mashaly, · Fahd A. Al-Mekhlafi, **Muhammed Farooq**, Mohammed Al-shami Muhammad A. Wadaan (2015) Larvicidal activity of endophytic fungal extract of *Cochliobolus spicifer* (Pleosporales: Pleosporaceae) on *Aedes caspius* and *Culex pipiens* (Diptera: Culicidae) *Appl Entomol Zool* (**2015**) 50:405–414.
9. Nael Abutaha\*, Ashraf MA Mashaly, **Muhammad Farooq** and Muhammad A Wadaan. (**2015**). Apoptotic Potential of *Artemisia sieberia* Besser (Asteraceae) Fraction against Human Cancer Cell Lines. *Tropical Journal of Pharmaceutical Research*; 14(10): 1779-1785

10. **Muhammad Farooq**, Ayman El-Faham, Sherine N. Khattab, Ahmed M. Elkayal, Mahmoud F. Ibrahim, Nael Abu Taha, Almohannad, Baabbad, Mohammad A. M. Wadaan, Ezaat A. Hamed. Biological screening of novel derivatives of valproic acid for anticancer and antiangiogenic properties. (2014) *Asian Pacific Journal of Cancer Prevention*, 2014;15(18):7785-92.
11. **Muhammad Farooq**. (2014) Neuro-protective Activity of *Pulicaria glutinosa* in Oxidative Stress -induced Neurotoxicity in Zebrafish Embryos. *Int. J. Agric. Biol.* 2015/17–1–193–198
12. Nael Abutaha1, **Muhammad Farooq**, Fahd Abdu Al-Mekhlafi, Baabbad Almohannad, Sabir Shehata and Mohammad Wadaan. (2014). Evaluating Developmental Toxicity of Solvent Fractions Obtained from *Pulicaria glutinosa* on Zebrafish Embryo and their Antimicrobial Potential. *JOURNAL OF PURE AND APPLIED MICROBIOLOGY* Vol. 8(4), p. 2679-2685
13. Ayman El-Faham, Muhammad Farooq, Sherine N. Khattab, Ahmed M. Elkayal, Mahmoud F. Ibrahim, Nael Abu Taha, Mohammad A. M. Wadaan, Ezaat A. Hamed. (2014). Synthesis and biological activity of Schiff base series of valproyl, N-valproyl glycyl, and N-valproyl-4-aminobenzoyl hydrazide derivatives *Chem. Pharm. Bull.* 62(6) 591–599
14. A.M.A. Mashaly, M. Farooq, W. Hozzein, A.M. Al-Qahtani1 & F.A. Al-Mekhlafi. (2014). Assessment of toxic baits for the control of the samsum ant, *Pachycondyla sennaarensis* (Formicidae: Ponerinae). *African Entomology* 22(1): 204–209
15. Muhammad Farooq and Mohammad A.M. Wadaan (2013). Epigenetic targets in hepatocellular carcinoma cells: identification of chaperone proteins complexes with histone deacetylases. *Epigenomics* (2013) 5(5), 501-512
16. Mohammad Ahmad, Mohammad A.M. Wadaan, Muhammad Farooq, Maha H. Daghestani, and Ahmed S. Sami (2013). Effectiveness of zinc in modulating perinatal effects of arsenic on the teratological effects in mice offspring. *Biological Research* 46:131-138
17. Wael N. Hozzein, **Muhammad Farooq**, Adel H. Al-Malki1 and Mohammed A.M. Wadaan. Developmental effects of extracts produced by some newly isolated Actinobacteria on the heart of Zebra fish (*Danio rerio*) embryos (2013). *African Journal of Pharmacy and Pharmacology*. Vol. 7(25), pp. 1680-1685
18. **Muhammad Farooq**, Wael N H, Elsayed A. Elsayed, Mohammad A.M Wadaan. (2013) Identification of histone deacetylase 1 (HDAC1) protein complex in liver cancer cells *Asian Pacific Journal of Cancer Prevention*, Vol 14, 2013, 1061-1067
19. **Farooq, M.**, A. El-Faham M. Ahmad, A.S. Sami and M.A. Wadaan, Dec (2012). The teratogenic profile of valproic acid (VPA) and newly synthesized derivatives in zebrafish embryos. *Int. J. Agric. Biol.*, 14: 894–900

20. Mahboob S., **M. Farooq**, S. Mahmood, N. Nasir, S. Sultana, A.S. Chaudhry, A.S. Al-Akel, H.F. Alkahem Al-Balawi, F. Al-Misned & K.A. Al-Ghanim. (2012) Phylogenetic Relationship of Cultured and Wild *Labeo rohita* and *Cirrhinus mrigala* Based on Muscles Proteins Profile in Different Weight Groups: A New Tool in Phylogenetic Analysis. *International Journal of Food Properties* 15, (5), September 2012, 949-960
21. Yan Li, **Muhammad Farooq**, Donglai Sheng, Chanchal Chandramouli, Tian Lan, Nilesh K. Mahajan, R. Manjunatha Kini, Yunhan Hong, Thomas Lisowsky, Ruowen Ge. (2012) Augmenter of Liver Regeneration (alr) Promotes Liver Outgrowth during Zebrafish hepatogenesis. *PLoS One*. 012;7(1):e30835. Epub 2012
22. Mohammad A., Yasser E., **Farooq M.**, Mohammad W. 2011. Lithium Induced Toxicity in Rats: Blood Serum Chemistry, Antioxidative Enzymes in Red Blood Cells and Histopathological Studies *2011 Biol Pharm Bull.*;34(2):272-7.
23. **Muhammad Farooq**, K.N. Sulochana, Xiufang Pan, Jiawei To, Donglai Sheng, Zhiyuan Gong, Ruowen Ge. "Histone deacetylase 3 (hdac3) is specifically required for liver development in zebrafish. *Developmental Biology* 317 (2008) 336–353
24. Wong Sy **Farooq M**, Ge R, Raghunath M." Pharmacologically induced angiogenesis in transgenic zebrafish," *Biochem Biophys Res Commun*. 2009 Jan 23;378(4):766-71
25. Farooq M, Hwang SY, Park MK, Kim JC, Kim MK, Sung YK., "Blocking endogenous glypican-3 expression releases Hep 3B cells from G1 arrest." *Mol Cells*. 2003 Jun 30; 15(3):356-60.
26. Young Kwan Sung, Sun Young Hwang, **Mohammad Farooq**, Jung- Chul Kim, and Moon Kyu Kim "Growth promotion of HepG2 hepatoma cells by antisense mediated Knockdown of glypican-3 is independent of insulin-like growth factor 2 signaling" *EXP. MOL.MED.*, Vol. 35, No. 4, 257-262, August 2003
27. Young Kwan Sung, Sun Young Hwang, Mi Kyung Park, **Mohammad Farooq**, In Sook Han, Han Ik Bae, Jung-Chul Kim and Moonkyu Kim. "Glypican-3 is over - expressed in human hepatocellular carcinoma" *Cancer Sc*. 2003; 94:259-262
28. Chung EJ, Sung YK, **Farooq M**, Kim Y, Im S, Tak WY, Hwang YJ, Kim YI, Han HS Kim JC, Kim MK. "Gene expression profile analysis in human hepatocellular carcinoma by cDNA microarray". *Mol Cells*. 2002 Dec 31;14(3):382-7
29. **Mohammad Farooq**, Younghee Kim Sanguk Im, Eunjung Chung, Sunyoung Hwang, Miyoungh Sohn, Moonkyu Kim and Jungchul Kim" Cloning of BNIP3h, a member of proapoptotic BNIP3 family genes" *EXP. MOL. MED*. Vol 33, No. 3, 169-173, Sep 2001

## Conferences papers

30. **Muhammad Farooq**, Sheng Donglai and Ruowen Ge.” Characterization of Hepatopoietin/ Augmenter of liver regeneration in zebrafish development” International workshop on fish genetics and development, Chinese Academy of Sciences, Wuhan China October 11-14, 2004
31. Sheng Donglai, **Muhammad Farooq** and Ruowen Ge” Molecular cloning and functional characterization of Hepatocyte growth factor (HGF) and its receptor c-MET from zebrafish *Danio rerio*” International workshop on fish genetics and development, Chinese Academy of Sciences, Wuhan China October 11-14, 2004
32. **Muhammad Farooq** and Ruowen Ge “Role of vascularization in the development of liver in zebrafish” 6th International Conference on Zebrafish Development and Genetics, university of Wisconsin Madison USA from July 29 to August 2, 2004
33. **Muhammad Farooq**, KN Soluchana, Xiufang Pan, Donglai Sheng, Zhiyuan Gong and Ruowen Ge “Histone deacetylase (HDAC) inhibitors inhibit zebrafish embryonic angiogenesis and liver/pancreas formation and HDAC-3 plays a specific role in zebrafish liver/pancreas development “International conference "Combined Scientific Meeting (CSM) 04-06 November, 2005 Singapore
34. **Muhammad Farooq** Vasculata 2004 a summer course organized by University of Wisconsin, Seattle Washington from July 21- July 28, 2004
35. **Muhammad Farooq** , Jiang Junhui , Mohammad A.Wadaan , Ge Ruowen Valproic acid induced liver defects in zebrafish embryos, a platform to identify genes involved in liver formation and development in zebrafish using microarray presented in 26th Saudi Biological Society meeting held in city of Taif, Kingdom of Saudi Arabia from 10-12 May 2011.
36. **Muhammad Farooq**, Ayman Al Faham, , M. Ahmed, Nakady Y.E, M. A.Wadaan. Valproic acid derivatives as inducer of notochord defects in developing zebrafish embryos, a model to study the notochord cells differentiation and regeneration presented in 26th Saudi Biological Society meeting held in city of Taif, Kingdom of Saudi Arabia from 10-12 May 2011.
37. **Muhammad Farooq** and Mohammad A.Wadaan Thias savigny a potential bio-indicator for marine pollution presented in 26th Saudi Biological Society meeting held in city of Taif, Kingdom of Saudi Arabia from 10-12 May 2011.
38. **Muhammad Farooq** , M.Abbas, M. A Wadaan Zebrafish embryos as drug screening model to screen anti cancer candidate molecules using crude extracts from Saudi Arabian medicinal plants presented in 26th Saudi Biological Society meeting held in city of Taif, Kingdom of Saudi Arabia from 10-12 May 2011.
39. **Muhammad Farooq** and Mohammad A. Wadaan Fishing HDAC1 and HDAC 3 interacting protein complexes by Tap Tag technology in Hep G2 cells Fifth Saudi Science Conference (SSC5'2012) April 16-18-2012 in Makkah Saudi Arabia

40. **Muhammad Farooq**, Jiang Junhui, Ge Ruowen , Mohammed A. M. Wadaan. Knocking down HDAC family members in zebrafish, identified genes involved in liver formation in zebrafish. Presented in 4th World epigenetic summit conference held in United Kingdom, London from 4-6 December, 2012
41. **Muhammad Farooq**, ElsayedA. Elsayed, Wael N.Hozzein, Nael A.Taha, Mohammad A. M. Wadaan. Proteomic identification of chaperon containing T complex protein 1 (TCP-1) proteins as interacting partner with HDAC1 and HDAC 3 in Liver cancer cells. Presented in 4th World epigenetic summit conference held in United Kingdom, London, from 4-6 December, 2012

### Papers communicated

1. Wael N. Hozzein, **Muhammad Farooq**, Mohammad A.M. Wadaan. Genestein a plants derived Isoflavones; isolated from novel genus of actinomycetes from Saudi habitat induced severe brain abnormalities in zebrafish embryos
2. **Muhammad Farooq**, A. El-Faham, M.A.M. Wadaan. Valproic acid derivatives with amino acid conjugate a new strategy for potent anti-angiogenesis inhibitors *Chem med chem*.
3. Ayman El-Faham, **Muhammad Farooq**, Sherine N. Khattab Ahmed M. Nael Abu Taha, Mohammad A. M. Wadaan, Ezaat A. Hamed. Reporting the synthesis of novel isatin derivatives as potential therapeutics in leukemia.
4. **Muhammad Farooq**, Nael Abu Taha, Fahad nasar, Mohammad A.M. Wadaan The Antiangiogenic Activity of Rumex vesicarius as Revealed by Bioactivity guided Screening of Saudi medicinal Plant Extracts in Zebrafish embryos.

## Grants succeeded and applied

	<b>project Title</b>	<b>Role</b>	<b>Duration</b>	<b>Funding Agency</b>	<b>Amount in SR</b>	<b>status</b>
<b>SCI-30-12</b>	Seasonal determination of Bio-accumulation of heavy metals in the local species of gastropods (marine snails) from coastal area of Kingdom of Saudi Arabia	Principle investigator	One year	Sabic company	45,000	completed
<b>09-BIO888-02</b>	Fishing of HDAC1 and HDAC3 interacting proteins from human liver cancer cell lines and zebrafish embryos by using Tandem Affinity Purification (TAP-tagging) and affinity based protein tagging technologies	Co PI	Two years	National plan for Science and technology (KACST)	~2 million	completed
<b>G1107-389-NPST-BIO-Farooq</b>	Bioactivity guided isolation of anti-angiogenic natural products using zebrafish as drug screening model	PI	Two years	National plan for Science and technology (NPST – KACST)	Around 2 million	Approved. In process for release of fund