

Dr. Abboud J. Ghalayini

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Experience

Professor

St. George's University *St. George Grenada*
Teaching medical biochemistry in the school of medicine

Jan '11 - Present

Senior Lecturer

University of West Indies *Cave Hill Barbados*
Teaching and coordinating medical biochemistry to medical students
Developing research projects in cell biology and biochemistry

Aug '08 - Jan '11

Associate professor

Medical University of the Americas *Charlestown Saint Kitts and Nevis*
Course Director: Medical Biochemistry
Teaching and student advising
Administrative duties

Sep '04 - Jul '08

Assistant Professor Cell Biology/Ophthalmology

University of Oklahoma Health Sciences Center *Oklahoma City, OK*
Conducting research in retinal cell biology and biochemistry.
Developing research proposal
Submitting Grant applications
Manuscript writing and editing
Training and supervising graduate and undergraduate students
Teaching in cell biology and neuroscience

Jan '95 - Jul '02

Research Assistant Professor

Baylor College of Medicine *Houston, TX*
Research in Cell biology and Biochemistry
Training of Graduate students and research assistants
Competing for grant funding
Manuscript writing and editing

Jul '93 - Jan '95

Research Instructor

Baylor College of Medicine *Houston, TX*
Research in retinal cell biology and signal transduction
Training of graduate students
Supervision of research assistants

Jun '90 - Jun '93

Research Associate

Baylor College of Medicine *Houston, TX*

Jun '87 - May '90

Postdoctoral Fellow

Baylor College of Medicine *Houston, TX*

Mar '83 - May '87

Education

Doctor of Philosophy (Biochemistry)

University of Houston *Houston, TX*

Dec '82

Grants

- Principal Investigator:
- National Eye Institute: 1R01EY11504-04: Role of Tyrosine Phosphorylation in Mammalian Retina (12/ 1/98-11/30/01, \$118,265/year, direct cost).
- Presbyterian Health Foundation: Role of Tyrosine Phosphorylation in Mammalian Retina(October 1, 1996- September 30, 1997) \$43,850.
- University of Oklahoma Provost Fund: Role of Tyrosine Phosphorylation in Mammalian Retina (July1,1995-June 30, 1996) \$25,000.
- Knights Templar Eye Foundation, Inc: Role of Tyrosine Phosphorylation in Mammalian Retina: Investigation of the Mode of Action of Fibroblast Growth Factor. (July 1, 1994 - June 30, 1995) \$20,000.
- Co-investigator:
- National Eye Institute: 5R01EY00871-26 to Robert E. Anderson: Second Messengers In The Retina (12/1/96- 11/30/01 274,889/year).

Professional Societies

- American Society for Biochemistry and Molecular Biology
- Association for Research in Vision and Ophthalmology
- American Association for the Advancement of Science
- International Society for Eye Research
- International Society for Neurochemistry

Publications

1. Eichberg, J., R. Bostwick, and A. Ghalayini (1983) Solubilization, purification and properties of membrane-bound enzymes which biosynthesize phosphoinositides. In *Neural Membranes*, edited by G.Y. Sun, N. Bazan, J.Y. Wu, G. Porcellati, and A.Y. Sun. Humana Press, Clifton, N.J., pp. 191-213.
2. Ghalayini, A. J. and R.E. Anderson (1984) Phosphatidylinositol 4,5-bisphosphate: Light-mediated breakdown in the vertebrate retina. *Biochem. Biophys. Res. Comm.* 124, 503-506.
3. Brown, J.E., L.J. Rubin, A.J. Ghalayini, A.P. Tarver, R.F. Irvine, M.J. Berridge, and R.E. Anderson (1984) A biochemical and electrophysiological examination of myo-inositol polyphosphate as a putative messenger for excitation in *Limulus* ventral photoreceptor cells. *Nature (London)* 311,160-163.
4. Ghalayini, A. and J. Eichberg (1985). Purification of phosphatidylinositol synthetase from rat brain by CDP-diacylglycerol affinity chromatography and properties of the purified enzyme. *J. Neurochem.* 44,175-182.
5. Ghalayini, A. J. and R.E. Anderson (1986). Light activation of phospholipase C in frog rod outer segments. In *Pineal and Retinal Relationships*, edited by P.J. O'Brien and D.C. Klein, Academic Press, Inc. (Orlando, Florida), pp.431-435.
6. Ghalayini, A.J. and R.E. Anderson (1987). Activation of bovine rod outer segment phospholipase C by ATP and GTP. *Neurosci. Res. Commun.* 1,119-127.
7. Choe, H.-G., A.J. Ghalayini, and R.E. Anderson (1990). Phosphoinositide metabolism in frog rod outer segments. *Exp. Eye Res.* 51,167-176.
8. Ghalayini, A.J., A.P. Tarver, W.M. Mackin, Cynthia A. Koutz, and Robert E. Anderson (1991). Identification and immunolocalization of phospholipase C in bovine rod outer segments. *J. Neurochem.* 57,1405-1412.
9. Ghalayini, A.J. and R.E. Anderson (1992). Activation of bovine rod outer segment phospholipase C by arrestin. *J. Biol Chem.* 267,17977-17982.

10. Ghalayini, A. J. and J. Eichberg (1993). Purification of brain phosphatidylinositol synthetase. In *Methods in Neurosciences*. edited by John N. Fain, vol 18, pp 85-92.
11. Ghalayini, A.J., C.A. Koutz, W.C. Wetsel, Y.A. Hannun, and R.E. Anderson, (1994). Immunolocalization of PKC γ in rat photoreceptor inner segments. *Current Eye Research*. 13,45-150.
12. Alvarez, R.A., A.J. Ghalayini, P.Xu, A Hardcastle, S. Bhattacharya, P.N. Rao, M.J. Pettenati, D.W. Bowden, R.E. Anderson, and W. Baehr (1995). cDNA sequence of the human retinal phosphoinositide-specific phospholipase C γ 4 and chromosomal localization of its gene. *Gemonics* 29, 53-61.
13. Ghalayini, A.J., and R.E. Anderson (1995). Light adaptation of bovine retinas in situ stimulates phosphatidylinositol synthesis in rod outer segments in vitro. *Current Eye Research* 14, 1025-1029.
14. Day, N.S., Ghalayini A.J. and R.E. Anderson (1995). Membrane-associated inositol hexakisphosphate binding proteins in bovine rod outer segments. *Current Eye Research* 14, 851-855.
15. Anderson, R.E., Alvarez, R.A., Guo, X.X., Nordquist, R.E., Baehr, W. and Ghalayini, A.J. (1996). Genes encoding enzymes involved in phosphoinositide metabolism are candidate genes for inherited retinal degenerations in humans. In *Retinal Degeneration and Regeneration*, ed. S. Kato, N. N. Osborne, and M.Tamai. Kugler Publications (Amsterdam). pp. 81-88.
16. Guo, X.X., Ghalayini, A.J., Chen, H., and Anderson, R.E. (1997). Phosphatidylinositol 3-kinase in bovine rod outer segments *Invest. Ophthalmol. Vis. Sci.* 38, 1873-1882.
17. Ghalayini, A. J., Weber, N. R., Rundle, D. R, C.A. Koutz., Guo,X.X., Lambert, D. and R. E. Anderson (1998) Phospholipase C γ 1 in bovine rod outer segments: Immunolocalization and light-dependent binding to membranes. *J. Neurochem.*70, 171-178.
18. Ghalayini, A. J., Guo, X.X., Koutz ,C.A, and R. E. Anderson (1998) Light stimulates tyrosine phosphorylation of rat rod outer segments in vivo. *Exp. Eye Res.* 66, 817-821.
19. Rapp, L. M. and A. J. Ghalayini (1999) Influence of UVA light stress on photoreceptor cell metabolism: Decreased rates of rhodopsin regeneration and opsin synthesis. *Exp. Eye Res.* 68, 757-764.
20. Bell, M.W., Alvarez, K. and A. J. Ghalayini (1999) Association of the Protein Tyrosine Phosphatase Shp-2 with Transducin- β and a 97 Kda Tyrosine Phosphorylated Protein in Photoreceptor Rod Outer Segments. *J. Neurochem.*73, 2331-2340.
21. Huang, Z., Ghalayini, A.J.; Guo, X.X., Alvarez, K.; and R. E Anderson (2000). Light-Mediated Activation of Diacylglycerol Kinase in Rat and Bovine Rod Outer Segments.*J.Neurochem.*75,,355-362.
22. Bell, M.W., Desai, N., Guo, X.X., and A. J. Ghalayini (2000) Tyrosine phosphorylation of the β subunit of transducin and its association with Src in rod outer segments. *J. Neurochem.*75, 2006-2019.
23. Ghalayini, A.J., Desai, N., Smith, K. R., Holbrook, R. M., Elliott, M. H and H. Kawakatsu (2002) Light-dependent association of Src with photoreceptor rod outer segments (ROS) membrane proteins in vivo. *J. Biol. Chem.* 277, 1469-1476.

24. Natarajan, K., Ghalayini, A.J. , Sterling, R.S., Holbrook, R.M., Butler, M.G., and R. C. Kennedy and Chodosh, J. (2002) Activation of Focal Adhesion Kinase in Adenovirus-infected Human Corneal Fibroblasts. *Invest. Ophthalmol. Vis. Sci.* 43, 2685-90.
25. Elliott M. H, Fliesler, S.J. and Ghalayini A. J. (2003) Cholesterol-dependent association of Caveolin-1 with Transducin Alpha subunit in photoreceptor rod outer segments: Disruption by Cyclodextrin. *Biochemistry* 42, 7892-7903.
26. Elliott, M. H. and Ghalayini, A. J. (2008) Phosphorylation of Caveolin-1 in bovine rod outer segments by an endogenous tyrosine kinase. *Adv. Exp. Med. Biol.* 613, 335-341.