

CURRICULUM VITAE FOR ACADEMIC PROMOTION
The Johns Hopkins University School of Medicine

Oksoon H. Choi, Ph.D.

December 8, 2003

DEMOGRAPHIC INFORMATION

Current Appointments:

2003-Present: The Johns Hopkins University School of Medicine
Assistant Professor of Medicine

Personal Data:

The Johns Hopkins University School of Medicine
At the Johns Hopkins Asthma and Allergy Center
Division of Allergy and Clinical Immunology
5501 Hopkins Bayview Circle
Baltimore, MD 21224-6801
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(410) 550-2090 (Fax)
ochoi2@jhmi.edu

Education and Training (in chronological order):

• **Undergraduate**

1978-1982 Sung Kyun Kwan University – B.S.
Pharmacy

• **Doctoral/graduate**

1982-1986 University of Maryland at Baltimore - Ph.D.
Pharmacology

1983-1986 Graduate Research Assistant
University of Maryland at Baltimore

1984-1986 Graduate Teaching Assistant
University of Maryland at Baltimore

- **Postdoctoral** - (internship, residency, fellowship etc.)

- 1986-1990 Visiting Fellow
National Institute of Diabetes, Digestive and Kidney Diseases, NIH,
Bethesda, Maryland
- 1990-1993 National Research Council Research Associate
National Heart, Lung and Blood Institute, NIH, Bethesda, Maryland
- 1993-1994 Senior Staff Fellow
National Heart, Lung, and Blood Institute, NIH, Bethesda, Maryland
- 1994-1997 Senior Staff Fellow
National Institute of Allergy and Infectious Diseases, NIH, Rockville,
Maryland
- 1997-1998 Guest Researcher
National Heart, Lung, and Blood Institute, NIH, Bethesda, Maryland

Professional Experience (in chronological order)

- 1998-2003 Assistant Professor
Meharry Medical College
Department of Biochemistry
School of Medicine
Nshville, Tennessee

RESEARCH ACTIVITIES

- **Peer-reviewed scientific articles**

1. Khazan, N., Young, G.A., El-Fakahany, E.E., **Hong, O.** and Calligaro, D. Sigma receptors mediate the psychotomimetic effects of N-allylnormetazocine (SKF-10,047), but not its opioid agonistic-antagonistic properties. *Neuropharmacology*, 1984; 23: 983-987.
2. Khazan, N., Young, G.A., El-Fakahany, E.E., **Hong, O.** and Calligaro, D. Sigma opioid receptors: SKF-10.047 Update. *Neuropeptides*, 1985; 5: 339-340.
3. Byron, K., Young, G.A., Khazan, N. and **Hong, O.** Suppression of PCP-induced behavioral arousal in the rat by yohimbine pretreatment. *Eur. J. Pharmacol.*, 1985; 3: 271-273.

4. **Hong, O.**, Young, G.A. and Khazan, N. Bidirectional cross-tolerance between methadone (μ)- and ethylketocyclazocine (κ)-tolerant rats. *Drug Alc. Dependence*, 1986; 18: 87-96.
5. **Hong, O.**, Young, G.A. and Khazan, N. Intracerebroventricular-morphine produces diuresis 24 h after previous dynorphin/morphine treatment. *Eur. J. Pharmacol.*, 1986; 132: 83-85.
6. Young, G.A., **Hong, O.** and Khazan, N. Differential tolerance to repeated daily injections of N-allylnormetazocine and its enantiomers in the rat. *Neuropharmacology*, 1987; 26: 463-467.
7. Ukena, D., Padgett, W.L., **Hong, O.**, Daly, J.W. and Olsson, R.A. N⁶-substituted 9-methyladenine: a new class of adenosine receptor antagonists. *FEBS Lett.* 1987; 215: 203-208.
8. Daly, J.W., **Hong, O.**, Padgett, W.L., Shamim, M.T., Jacobson, K.A. and Ukena, D. Non-xanthine heterocycles: Activity as antagonists of A₁- and A₂-adenosine receptors. *Biochem. Pharmacol.*, 1988; 37: 655-664.
9. Shamim, M.T., Ukena, D., Padgett, W.L., **Hong, O.**, and Daly, J.W. 8-Aryl and 8-cycloalkyl-1,3-dipropylxanthines: Further potent and selective antagonists for A₁-adenosine receptors. *J. Med. Chem.*, 1988; 31: 613-617.
10. **Hong, O.**, Young, G.A. and Khazan, N. Modulation of morphine-induced EEG and behavioral effects by dynorphin A(1-13) on morphine-induced changes in EEG and behavior in non-tolerant and morphine-tolerant rats. *Neuropharmacology*, 1988; 27: 807-812.
11. **Choi, O.H.**, Shamim, M.T., Padgett, W.L. and Daly, J.W. Behavioral effects of caffeine analogs: Correlations with activity as adenosine receptor antagonists and as phosphodiesterase inhibitors. *Life Sci.*, 1988; 43: 387-398.
12. **Choi, O.H.**, Gusovsky, F., Yasumoto, T. and Daly, J.W. Maitotoxin: Effects on calcium channels, phosphoinositide breakdown and arachidonate release in pheochromocytoma PC12 cells. *Mol. Pharmacol.*, 1990; 37: 222-230.
13. Jones, S.V.P., **Choi, O.H.** and Beaven, M.A. Carbachol induces secretion in a mast cell line (RBL-2H3) transfected with the m1 muscarinic receptor gene. *FEBS Lett.*, 1991; 289: 47-50.
14. Adejare, A., Nie, J.Y., Hebel, D., Brackett, L.E., **Choi, O.H.**, Gusovsky, F., Padgett, W.L., Daly, J.W., Creveling, C.R., Kirk, K. Effects of fluorine substitution on the adrenergic properties of 3-(tert-butylamino)-1-(3,4-dihydroxyphenoxy)-2-propanol. *J. Med. Chem.*, 1991; 34: 1063-1068.

15. **Choi, O.H.**, Padgett, W.L. and Daly, J.W. Effects of the amphiphilic peptides melittin and mastoparan on calcium influx, phosphoinositide breakdown and arachidonic acid release in rat pheochromocytoma PC12 cells. *J. Pharmacol. Exp. Ther.*, 1992; 260: 369-375.
16. **Choi, O.H.**, Lee, J.-H., Kassessinoff, T.A., Cunha-Melo, J.R., Jones, S.V.P. and Beaven, M.A. Antigen and carbachol mobilize calcium by similar mechanisms in a transfected mast cell line (RBL-2H3 cells) that expresses m1 muscarinic receptor. *J. Immunol.*, 1993; 151: 5586-5595.
17. **Choi, O.H.**, Adelstein, R.A., Beaven, M.A. Phosphorylation of myosin light chains by both myosin light chain kinase and protein kinase C (PKC) is associated with secretion in rat basophilic RBL-2H3 cells. *J. Biol. Chem.*, 1994; 269: 536-541.
18. Ali, H., **Choi, O.H.**, Yamada, K., Beaven, M.A. and Gonzaga, H.M.S. Sustained activation of phospholipase D via A₃-adenosine receptor is associated with enhancement of antigen- and Ca²⁺-ionophore induced secretion in RBL-2H3 cells. *J. Pharmacol. Exp. Ther.*, 1996; 276:837-845.
19. **Choi, O.H.**, Park, C-S, Adelstein, R.A. and Beaven, M.A. Cloning of the cDNA encoding the myosin heavy chain of a vertebrate cellular myosin from RBL-2H3 cells. *J. Muscle Res. Cell Motility*, 1996; 17:69-77.
20. **Choi, O.H.**, Kim, J. H. And Kinet, J.-P. Calcium mobilization via sphingosine kinase in signalling by the FcεRI antigen receptor. *Nature*, 1996; 380:634-646.
21. Shin, Y., Daly, J.W. and **Choi, O.H.** Diverse effects of sphingosine on calcium mobilization and influx in differentiated HL-60 cells. *Cell Calcium*, 2000; 27:269-280.
22. Leite-Browning, M.L., McCawley L.J., **Choi, O.H.**, Matrisian, L.M. and Ochieng, J. Interaction of α₂-HS glycoprotein (fetuin) with MMP-3 and murine squamous cell carcinoma cells. *International J. Oncol.*, 2002; 21:965-971.
23. Jung, I.D., Lee, J., Yun, S.Y., Park, C.G., Choi, W.S., Lee, H.W., **Choi, O.H.**, Han, J.W. and Lee, H.Y. Cdc42 and Rac1 are necessary for autotaxin-induced tumor cell motility in A2058 melanoma cells. *FEBS Lett.*, 2002; 532:351-356.
24. Lee, H.-S., Park, C.-S., Lee, Y.M., Suk, H.Y., Kim, J.-H., Clemons, T.C.M. and **Choi, O.H.** Antigen-induced Ca²⁺ mobilization in RBL-2H3 cells: Role of IP₃ and S1P and necessity of the production of IP₃. *J. Immunol.* (in revision).

- **Books Chapters/Monographs**

1. **Hong, O.**, Young, G.A. and Khazan, N. Differential cross-tolerance among morphine, methadone and ethylketocyclazocine - EEG and behavior. In Problems of Drug Dependence 1985. Proceedings of the 47th Annual Scientific Meeting, The Committee on Problems of Drug Dependence, Inc. *National Institute on Drug Abuse Research*

Monograph 67, ed. by L.S. Harris, pp. 170-176, DHHS Pub. Washington D.C.: Superintendent of Documents, U.S. Government Printing office, 1986.

2. Young, G.A., **Hong, O.** and Khazan, N. EEG, EEG power spectra and behavioral correlates of opioids and other psychoactive agents. In: M. Williams and J.B. Malick (Eds.), *Drug Discovery and Development*, pp. 199-226, Clifton, NJ: Human Press, 1987.
3. **Choi, O.H.** and Holbrook, P.G. Signals initiated by the high affinity FcR for IgE. In: J. Van de Winkle and M. Hogarth (Eds.), *The Immunoglobulin Receptors and Their Physiological and Pathological Roles in Immunity*, pp. 83-93, The Great Britain: Kluwer Academic Publisher, 1998.

Extramural Sponsorship (current, pending, previous)

- **Grants/Current**

2002-2006 Role of PI3KC2 β in Ca²⁺ Signaling via Sphingosine Kinase.
\$650,000 (total direct costs); \$150,000 (current year direct cost)
1 R01 HL68879
Principal Investigator: Oksoon H. Choi, Ph.D.

- **Previous**

2000-2005 The Role of Sphingosine Kinase in Mast Cell Signaling
\$574,293 (total direct costs)
5 K01 HL04143
Principal Investigator: Oksoon H. Choi, Ph.D.
Grant is terminated upon transfer to JHU

1998-1999 RCMI (5G12RR03032 15)
\$426,000 (Startup Package for O.H. Choi)
Principal Investigator: John E. Maupin, Jr., D.D.S.

EDUCATIONAL ACTIVITIES

Teaching

1999 - 2002 Medical Biochemistry (12 hrs/year)
1998 - 1999 Core Biochemistry (9 hrs/year)
1999 Cellular Metabolism (2 hrs)
2000 Core Biochemistry (2 hrs)
2000 Core Cell (8 hrs)
2001 Core Cell (14 hrs)

2000 - 2002 Laboratory Techniques (12 hrs)
 2000 - 2002 Advanced Topics in Biochemistry (4 hrs/year)

Mentoring (pre- and post-doctoral)

Postdoctoral Fellows

Present Positions

Jae H. Kim, Ph.D.	1995-1997	Genomics Technology Group Leader at SAIT/Samsung, Korea
Hyun-Sil Lee, Ph.D.	1998-present	Johns Hopkins Allergy and Asthma Center
Tianxiang Tu, M.D.	2001-2002	Meharry Medical College Department of Pharmacology Research Associate
Ho Young Suk, Ph.D.	2001-present	Johns Hopkins Allergy and Asthma Center

Predoctoral

Charlene Blake	2001	Sophomore Duke University School of Medicine
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Ph.D. Thesis Advisory Role

Tameka Clemons: 1999-2002
 Ph.D., Department of Biochemistry, Meharry Medical College.
 Thesis Title: Effects of sphingosine 1-phosphate in
 FcεRI-mediated Ca²⁺ response.
 Recipient of NIH predoctoral fellowship from NIAID

Quiana Matthews: 2000-2003
 Ph.D., Department of Biochemistry, Meharry Medical College.
 Thesis Title: Calcium mobilization and degranulation via
 sphingosine kinase (SPHK1) in RBL-2H3 cells.
 Recipient of NIH predoctoral fellowship from NIGMS

Thesis Committees

Junaid Abdulghani	2000-2003	Meharry Medical College
S. Jason Augustine	2000-2003	Meharry Medical College
Mohammed Athar Naeem	2000-2003	Freshman Meharry Medical College
Brenya Griffin	2000-2003	Meharry Medical College

Joshua Williams 1999-2003 Freshman
University of Louisiana, School of Medicine

Training Grants

Minority Institutional Research Training Program (Biochemistry, MMC)

NIH

Project Director: Samuel E. Adunyah

07/01/99-06/30/2004

5 Predoctoral fellows

Current year funding: \$213,825

Graduate Assistants in Areas of National Need (P200980126)

Department of Education

Project Director: Shirley B. Russell

08/15/2001-08/14/2004

6 Predoctoral fellows

Current year funding: \$144,285

Minority Institutional Research Training Program in Cardiovascular and Hematologic
Disease (Microbiology, MMC)

Project Director Shirley B. Russell

04/01/03-03/31/08 (Renewal for)

9 Predoctoral Trainees

Current year funding: \$268,403

Editorial Activities

- **Journal peer review activities**

European Journal of Pharmacology

European Journal of Pharmacology and Experimental Cell Research

ORGANIZATIONAL ACTIVITIES

Institutional Administrative Appointments (committees, dates)

2001-2003 Chair, Radiation Safety Committee (MMC)

2001-2003 Member, Curriculum Committee, School of Graduate Studies and
Research (MMC)

1998-2003 Member, Department of Biochemistry Graduate Studies Program (MMC)

1998-2003 Member, Department of Biochemistry A.P.T. Committee (MMC)

Professional Societies (membership, committees, dates, role)

- 1985-1995 Member, The American Society for Pharmacology and Experimental Therapeutics
1985-1994 Member, The society for Neurosciences
2000-present Member, The American Society for Biochemistry and Molecular Biology
2000-present Member, The American Association for the Advancement of Science

RECOGNITION

Awards, Honors

- 1987-1990 Forgary International Fellowship
1990-1993 National Research Council Research Associateship Award

Invited Talks, Panels (title, date, venue, sponsor)

- 1991 University of Maryland at Baltimore, School of Pharmacy, Baltimore, Maryland
1993 The International Symposium on Biomedical Sciences, Suwon, Korea.
1996 The 1996 FASEB Summer Research conference on the Biology of Fc Receptors, Snowmass Village, Colorado.
1996 National Institute of Allergy and Infectious Diseases, Bethesda, Maryland
1997 National Institute on Aging, NIH, Baltimore, Maryland
1997 National Cancer Institute, NIH, Bethesda, Maryland
1997 National Cancer Institute, NIH, Frederick, Maryland
1997 Fall Conference on Biochemistry and Molecular Medicine: Present and Future, Seoul, Korea.
1997 Meharry Medical College, Department of Biochemistry, Nashville, Tennessee
1998 ROOTS OF CHEMISTRY AT NIH – Dedicated to John Daly on his 65th Birthday, NIH Natcher Center, Bethesda, Maryland
2000 Meharry Medical College, Department of Pharmacology, Nashville, Tennessee