

CURRICULUM VITAE

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Education:

1976 Ph.D. Brown University, Providence, RI: chemistry,
1972 B.S. Seoul National University, Seoul, Korea: chemistry,

Brief Chronology of Employment:

1998-present Chief, Molecular and Cellular Biochemistry Unit, OPCB, NIDCR, NIH
1996-present Research Chemist, GS-14 Oral and Pharyngeal Cancer Branch, NIDCR, NIH
1989-1996 Research Chemist, GS-13 Laboratory of Cellular Development and
Oncology, NIDR, NIH
1984-1989 Senior Staff Fellow, Laboratory of Oral Biology and Physiology, NIDR,
1982-1984 Staff Fellow, Laboratory of Biochemistry, NIDR, NIH
1979-1982 Visiting Fellow, Laboratory of Biochemistry, NIDR, NIH
1976-1978 Research Associate, Department of Biology, Massachusetts Institute
of Technology

Honors and Awards:

2005 Young Mae Award for Scientific Achievement
2000 CKD/ Society of Biomedical Research Award
1994 NIH Merit Award

Editorial Responsibilities:

1999- Present Editorial Board Member: Archives of Pharmacal Research
1997-1998 Editorial Board Member: Journal of Biomedical Research

Ad-hoc Reviewer

Journal of Biological Chemistry, Journal of Cell Biology, Biochemistry, Medicinal Chemistry, International journal of Cancer, Journal of Experimental Medicine, Molecular Genetics and Genomics, Biochemistry and Molecular Genetics, Future Drug Development.

Membership and Activity in Professional Societies:

The American Society for Biochemistry and Molecular Biology
Korean Scientists and Engineers Association
Society for Biomedical Research

Extramural Activities

NIH Extramural

2001 Consultant, NIH CSR Study Section
2005 Grant Review Board Member (NIH, CSR), Molecular mechanism
 of Neurodegeneration
2006 Grant Review Board Member (NIH, CSR), Molecular mechanism
 of Neurodegeneration

Extramural

1985 Ad Hoc Review Member, Site Visit, University of Arizona
1987 Ad Hoc Review Member, Site Visit, Harvard Medical School
1994 Grant Review Board Member, Korean Science Foundation
1995-2000 Member, Organizing Committee, Annual meeting of the Society of Biomedical
 Research
2003 Grant Review Board Member, FY2003 USAMRMC/CDMRP Breast Cancer
 Research Program
2004 Chairperson, Organizing Committee, 14th Annual Meeting of the
 Society of Biomedical Research
2005 Ph.D Thesis Review Committee for Paul M J Clement, University
 of Leuven, Belgium
2007 Chair, Bioscience and Technology Symposium, US-Korea
 Conference 2007
2008 Ph.D Thesis Reviewer for Petra Monika Gentz, Rhodes University,
 South Africa

Invited Presentations:

2007 International Congress on Biogenic Amines: Biological and Clinical
 Perspectives, Catania, Italy
2007 Bioscience and Technology Symposium, US Korea Conference 2007,
 Reston, VA

2007 Sao Paulo State University, Araraquara, Brazil
 2007 36th Annual Meeting of the Brazilian Society for Biochemistry and
 Molecular Biology (SBBq)
 2007 University of Sao Paulo, Sao Paulo, Brazil
 2006 Ewha Woman's University, Seoul, Korea
 2006 Seoul National University, Seoul Korea
 2006 Korea Institute of Radiological and Medical Sciences
 2006 International Conference on the Role of Polyamines and their Analogs in
 Cancer and Other Diseases, Tivoli (Rome), Italy
 2006 US Korea Conference, Teaneck, NJ
 2006 UMDNJ New Jersey Medical School
 2005 NIH Korean Scientists Association, NIH
 2005 Laboratory of Biochemistry and Genetics, NIDDK, NIH
 Gordon Research Conference on Polyamines, New London, Connecticut
 2004 International Conference on Polyamines, Kazusa Arc, Japan
 2003 The US Korea Conference, Pasadena, CA
 Annual Meeting of the Japanese Society of Biochemistry, Kyoto, Japan
 Korean National Institute of Health, Seoul, Korea
 Skin Research Institute, Pacific R & D Center, Yongin, Korea
 Seoul National University, School of Medicine, Seoul, Korea
 Catholic University of Korea, Cancer Research Center, Seoul, Korea
 Catholic University of Daegu, Daegu, Korea
 1999 Gordon Research Conference on Polyamines, Oxford, United Kingdom
 Cancer Research Institute, Catholic University, Seoul, Korea
 Key Myung University Medical School, Taegu, Korea
 Kangnung National University College of Dentistry, Kangnung, Korea
 Workshop on eIF-5A Function, Genetic Therapy, Inc. Gaithersburg, MD
 Tokyo International Symposium on Polyamines, Tokyo, Japan
 Tokyo Medical and Dental University, Tokyo, Japan
 Seoul National University, Seoul, Korea
 Duk-Sung Women's College, Seoul Korea
 LBG, NIDDK, NIH, Bethesda MD
 LMCB, NIDDK, NIH, Bethesda, MD
 Korean Green Cross Corporation, Yongin, Korea
 Korean National Institute of Health, Seoul, Korea
 Schering-Plough Institute, Kenilworth, NJ
 Sandoz Research Institute, Vienna, Austria
 International Congress on Amino Acids, Vienna, Austria
 Gordon Conference on Polyamines, Meriden NH
 1994 Meeting of the Society of Biomedical Research
 Eisai Research Institute, Andover, MA
 1993 Merck Sharp & Dohme Research Laboratory, WestPoint, PA
 University of Maryland, School of Pharmacy, Baltimore, MD
 1990 Seoul National University, Seoul, Korea
 International Symposium on Polyamines in Molecular and Medical Biology,
 Kyoto, Japan

- 1989 Gordon Conference on Polyamines, Newport, RI
Howard University, Washington, DC
- 1988 University of Rome, Rome, Italy
International Symposium on Polyamines in Biochemical and Clinical Research,
University of Naples, Naples, Italy
- 1986 Georgetown University, Medical School, Washington, DC
- 1984 FASEB Meeting, Mini-symposium on Polyamines, St. Louis, MO
- 1983 Pennsylvania State University, College of Medicine, Hershey, PA
Gordon Conference on Polyamines, New London, NH

Symposia Organized:

- 2004 14th Annual Meeting of The Society of Biomedical Research
- 2007 The Bioscience and Technology Symposium, US-Korea Conference

Intramural Activities outside the NIDCR DIR

- 2001 Search Committee, Laboratory of Retinal Cell and Molecular Biology, National
Eye Institute
- 2003 President, NIH Korean Scientists Association
- 2006 Review committee for the NIH National Graduate Student Research Festival
- 2007 Review committee for the NIH National Graduate Student Research Festival

Activities within NIDCR DIR

- 1992-1996 NIDR Safety Committee
- 1993-1994 NIDR Visiting Scholars Committee
- 1997 NIDR Discretionary Funds Committee
- 1997 NIDR DIR Seminar Committee
- 1998 NIDR Equipment Committee
- 1998 BSC Report Format Committee
- 1997-1999 NIDCR Animal Care and Use Committee
- 2004 Search Committee for a senior scientist, NIDCR, NIH

Invention Reports and Patents:

US Patent No 5,344,846, September 6, 1994 Jakus J, Park MH, Wolff EC. and Folk JE (1994) Compositions and methods for inhibiting deoxyhypusine synthase and the growth of cells.

US Patent No. 7,141,589, November 28, 2006 Park MH, Clement PMJ, Hanauske-Abel HM, Wolff EC, Kleinman HK and Cracchiolo BM (2003) Method of inhibiting formation of vascular channels and methods of inhibiting proliferation. International Publication Number WO 03/018014; International Publication Date 06.03.2003 Priority Date August 23 2001; International Patent Application under the Patent Cooperation Treaty (PCT) International Application Number PCT/US02/26909 Filing Date August 23.2002

US Provisional Patent Application No PCT/US03/28742, Sept 13, 2003; Hanauske-Abel HM, Popowicz A, Wolff EC, Clement PMJ, Park MH, Cracchiolo BM. Methods of Diagnosing and Treating Hyperproliferative Disorders

US Provisional Patent Application (No PCT W02005/055931A2) December 2003
Hanauske-Abel HM, Palumbo P, Cracchiolo BM, Park MH, Wolff EC, Hanauske A-R and McLendon G. Method of preventing survival of retrovirally infected cells and of inhibiting formation of infectious retroviruses

PUBLICATIONS

Peer Reviewed Research Articles

1. Lusk J.E. and **Park M.H.** Phospholipase activity plays no role on the action of colicin K. *Biochim. Biophys. Acta* 394: 129-134, 1975.
2. **Park M.H.**, Wong B.B. and Lusk J.E. Mutants in three genes affecting transport of magnesium in *Escherichia coli.*: Genetics and physiology. *J Bacteriology* 126:1096-1103, 1976.
3. **Park M.H.**, Berg W.H. and Buchanan J.M. The formation of plasminogen activator during viral transformation of chick embryo fibroblasts. *Chem. Phys. of Human Plasma Proteins* 315-328, 1979.
4. Folk J.E., **Park M.H.**, Chung S.I., Schrode J., Lester E.P. and Cooper H.L. Polyamines as physiological substrates for transglutaminases. *J. Biol. Chem.* 255: 3695-3700, 1980.
5. **Park M.H.**, Cooper H.L. and Folk J.E. Identification of hypusine, an unusual amino acid, in a protein from human lymphocytes and of spermidine as its biosynthetic precursor. *Proc. Natl. Acad. Sci. USA* 78:2869-2873, 1981.
6. **Park M.H.**, Cooper H.L. and Folk J.E. The biosynthesis of protein-bound hypusine [N^ε-(4-amino-2-hydroxybutyl)lysine]: lysine as the amino acid precursor and the intermediate role of deoxyhypusine [N^ε-(4-aminobutyl)lysine]. *J. Biol. Chem.* 257:7217-7222, 1982.
7. Cooper H.L., **Park M.H.** and Folk J.E. Posttranslational formation of hypusine in a single major protein occurs generally in growing cells and is associated with activation of lymphocyte growth. *Cell* 29:791-797, 1982.
8. Cooper H.L., **Park M.H.**, Folk J.E., Safer B. and Braverman R. Identification of the hypusine-containing protein Hy⁺ as translation initiation factor eIF-4D. *Proc. Natl. Acad. Sci. USA* 80: 1854-1857, 1983.
9. **Park M.H.**, Chung S.I., Cooper H.L. and Folk J.E. The mammalian hypusine-containing protein, eIF-4D. structural homology of this protein from several species. *J. Biol. Chem.* 259: 4563-4565, 1984.
10. **Park M.H.**, Liberato D.J., Yergey A.L. and Folk J.E. The biosynthesis of hypusine [N^ε-(4-amino-2-hydroxybutyl)lysine]: alignment of the butylamine segment and source of the secondary amino nitrogen. *J. Biol. Chem.* 259: 12123- 12127, 1984.
11. Abbruzzese A., **Park M.H.** and Folk J.E. Deoxyhypusine hydroxylase from rat testis: partial purification and characterization. *J. Biol. Chem.* 261:3085-3089, 1986.

12. Abbruzzese A., **Park M.H.** and Folk J.E. Indirect assays for deoxyhypusine hydroxylase using dual-label ratio changes and oxidative release of radioactivity. *Anal. Biochem.* 154: 664-670, 1986.
13. **Park M.H.** and Folk J.E. Biosynthetic labeling of hypusine in mammalian cells: carbon-hydrogen bond fissions revealed by dual-labeling. *J. Biol. Chem.* 261: 14108-4111, 1986.
14. **Park M.H.**, Liu T.Y., Neece S.H. and Swiggard W.J. Eukaryotic initiation factor 4D: purification from human red blood cells and the sequence of amino acids around its single hypusine residue. *J. Biol. Chem.* 261:14515-14519, 1986.
15. Abbruzzese A., **Park M.H.** and Folk J.E. Hypusine biosynthesis: studies on deoxyhypusine hydroxylase. *Italian J. Biochem.* 36: 45A-48A, 1987.
16. **Park M.H.** Regulation of biosynthesis of hypusine in Chinese hamster ovary cells: evidence for eIF-4D precursor polypeptides. *J. Biol. Chem.* 262:12730-12734, 1987.
17. Abbruzzese A., Liguori V., Isernia T. and **Park M.H.**) Inhibition of deoxyhypusine hydroxylase by polyamines. *Italian J. Biochem.* 37:187A-189A, 1988.
18. **Park M.H.** Identification of an eukaryotic initiation factor 4D precursor in spermidine-depleted Chinese hamster ovary cells. *J. Biol. Chem.* 263:7447-7449, 1988.
19. **Park M.H.** and Wolff E.C. Cell-free synthesis of deoxyhypusine: separation of protein substrate and enzyme, and identification of 1,3-diaminopropane as a product of spermidine cleavage. *J. Biol. Chem.* 263:15264-15269, 1988.
20. Abbruzzese A., **Park M.H.**, Beninati S. and Folk J.E. Inhibition of deoxyhypusine hydroxylase by polyamines and by a deoxyhypusine peptide. *Biochim. Biophys. Acta* 997: 248-255, 1989.
21. **Park M.H.** The essential role of hypusine in eukaryotic translation initiation factor 4D (eIF-4D): purification of eIF-4D and its precursors and comparison of their activities. *J. Biol. Chem.* 264: 18531-18535, 1989.
22. Wolff E.C., **Park M.H.** and Folk J.E. Cleavage of spermidine as the first step in deoxyhypusine synthesis. *J. Biol. Chem.* 265: 4793-3799, 1990.
23. Abbruzzese A., Hanauske-Abel H.M., **Park M.H.**, Henke S. and Folk J.E. The active site of deoxyhypusyl hydroxylase: use of catecholpeptides and their component chelator and peptide moieties as molecular probes. *Biochim. Biophys. Acta* 1077:159-166, 1991.
24. Chung S.I., **Park M.H.**, Folk J.E. and Lewis M.S. Eukaryotic initiation factor 5A: the molecular form of the hypusine-containing protein from human erythrocytes. *Biochim. Biophys. Acta* 1076: 448-451, 1991.
25. **Park M.H.**, Wolff E.C., Smit-McBride Z., Hershey J.W.B. and Folk J.E. Comparison of the activities of variant forms of eIF-4D: the requirement for hypusine or deoxyhypusine. *J. Biol. Chem.* 266:7988-7994, 1991.
26. Wolff E.C., Kinzy T.G., Merrick W.C. and **Park M.H.** Two isoforms of eIF-5A in chick embryo: isolation, activity and comparison of sequences of the hypusine-containing proteins. *J. Biol. Chem.* 267:6107-6113, 1992.
27. **Park M.H.**, Wolff E.C., and Folk J.E. Review. Hypusine: its post-translational formation in eukaryotic initiation factor 5A and its potential role in cellular regulation. *BioFactors* 4: 95-104, 1993.
28. **Park M.H.**, Wolff E.C. and Folk J.E. Review. Is hypusine essential for eukaryotic cell proliferation? *Trends in Biochemical Sciences* 18: 475-479, 1993.

29. Jakus J., Wolff E.C., **Park M.H.** and Folk J.E. Features of the spermidine-binding site of deoxyhypusine synthase as derived from inhibition studies: effective inhibition by *bis-* and *mono-*guanylated diamines and polyamines. *J. Biol. Chem.* 268:13151-13159, 1993.
30. Rinaudo M.S., Joe Y.A. and **Park M.H.** Cloning and sequencing of a chick embryo cDNA encoding the 20-kDa hypusine-containing protein, eIF-5A. *Gene* 137:303-307, 1993.
31. Hanauske-Abel, H.M., **Park M.H.**, Hanauske A.-R., Popowicz A.M., Lalande M. and Folk J.E. Inhibition of G1-S transition by inhibitors of deoxyhypusine hydroxylation. *Biochem. Biophys. Acta.*1221:115-124, 1994.
32. Joe Y.A. and **Park M.H.** Structural features of the eIF-5A precursor required for post-translational synthesis of deoxyhypusine. *J. Biol. Chem.* 269: 25916-25921, 1994.
33. **Park M.H.**, Wolff E.C., Lee Y.B. and Folk J.E. Antiproliferative effects of inhibitors of deoxyhypusine synthase: inhibition of growth of Chinese hamster ovary cells by guanyl diamines. *J. Biol. Chem.* 269: 27827-27832, 1994.
34. McCaffrey T.A., Pomerantz K.B., Sanborn T.A., Spokojny A.M., Du B., **Park, M.H.**, Folk J.E., Lamberg A., Kivirikko K.I., Falcone D.J., Mehta S.B. and Hanauske-Abel H.M. Specific inhibition of eIF-5A and collagen hydroxylation by a single agent: antiproliferative and fibrosuppressive effects on smooth muscle cells from human coronary arteries. *J. Clin. Invest.* 95: 446-455, 1995.
35. Wolff E.C., Lee Y.B., Chung S.I., Folk J.E. and **Park M.H.** Deoxyhypusine synthase from rat testis: purification and characterization. *J. Biol. Chem.* 270: 8660-8666, 1995.
36. Lee Y.B., Wolff E.C., **Park M.H.** and Folk J.E. Diamine and triamine analogs and derivatives as inhibitors of deoxyhypusine synthase: synthesis and biological activity. *J. Med. Chem.* 38: 3053-3061, 1995.
37. Kang K.R., Wolff E.C., **Park M.H.**, Folk J.E. and Chung S.I. Identification of *YHR068w* in *Saccharomyces cerevisiae* as a gene for deoxyhypusine synthase: expression and characterization of the enzyme. *J. Biol. Chem.* 270: 18408-18412, 1995.
38. Joe Y.A., Wolff E.C. and **Park M.H.** Cloning and expression of human deoxyhypusine synthase cDNA: structure-function studies with the recombinant enzyme and mutant proteins. *J. Biol. Chem.* 270: 22386-22393, 1995.
39. Lee Y.B., Joe Y.A. and **Park M.H.** Inhibitors of hypusine biosynthesis: potential anticancer agents. *J. Biomed. Res.* 5: 46-52, 1995.
40. **Park M.H.**, Joe Y.A., Kang K.R., Lee Y.B. and Wolff E.C. The polyamine-derived amino acid hypusine: its posttranslational formation in eIF-5A and its role in cell proliferation. *Amino Acids* 10:109-121, 1996.
41. Wolff E.C., Folk J.E. and **Park M.H.** Enzyme-substrate intermediate at lysine-329 of human deoxyhypusine synthase. *J. Biol. Chem.* 272: 15865-15871, 1997.
42. **Park M.H.**, Lee Y.B. and Joe Y.A. Hypusine is essential for eukaryotic cell proliferation. *Biol. Signals* 6: 115-123, 1997.
43. Joe Y.A., Wolff E.C., Lee Y.B. and **Park M.H.** Enzyme-substrate intermediate at a specific lysine residue is required for deoxyhypusine synthesis: the role of Lys³²⁹ in human deoxyhypusine synthase. *J. Biol. Chem.* 272: 32679-326785, 1997.
44. **Park M.H.**, Joe Y.A. and Kang K.R. Deoxyhypusine synthase activity is essential for cell viability in the yeast *Saccharomyces cerevisiae*. *J. Biol. Chem.* 273:1677-1683, 1998.

45. Liao D.-I., Wolff E.C., **Park M.H.** and Davies D.R. Crystal Structure of the NAD complex of human deoxyhypusine synthase: an enzyme with a ball and chain mechanism for blocking the active site. *Structure* 6: 23-32, 1998.
46. Wolff E.C. and **Park M.H.** Identification of Lysine³⁵⁰ of yeast deoxyhypusine synthase as the site of enzyme intermediate formation. *Yeast* 15: 43-50, 1999.
47. Lee Y.B., Joe Y.A., Wolff E.C., Dimitriadis E.K. and **Park M.H.** :Complex formation between human deoxyhypusine synthase and its protein substrate, the eIF5A precursor *Biochem. J.* 340: 273-281, 1999.
48. Wolff E.C., Wolff J. and **Park M.H.**: Deoxyhypusine synthase generates and uses bound NADH in a transient hydride transfer mechanism. *J. Biol. Chem.* 275, 9170-9177, 2000.
49. Lee C.H., Marekov L.N., Kim S.Y., Brahim J.S, **Park M.H.** and Steinert P.M. Small proline-rich protein 1 is a major component of cornified cell envelope of normal human oral keratinocytes *FEBS Lett.* 477, 268-272, 2000.
50. Lee C.H. and **Park M.H.** Human deoxyhypusine synthase: Interrelationship between the binding of NAD and substrates *Biochem. J.* 352, 851-857, 2000.
51. Lee C.H., Um P. and **Park M.H.** Structure/function studies of human deoxyhypusine synthase: Identification of amino acids critical for the binding of spermidine and NAD. *Biochem. J.* 355, 841-849, 2001.
52. Lee Y., Kim H.K., Kim Y.Y., **Park M.H.** and Joe Y.A. Effects of N¹-guanyl-1,7-diaminoheptane, an inhibitor of deoxyhypusine synthase, on endothelial cell growth, differentiation and apoptosis. *Mol. Cell. Biochem.* 237 (1-2), 69-76, 2002.
53. Clement P.M.J., Hanauske-Abel H.M., Wolff E.C., Kleinman H.K. and **Park M.H.** The antifungal drug ciclopirox inhibits deoxyhypusine and proline hydroxylation, endothelial cell growth and angiogenesis *in vitro*. *Int. J. Cancer* 100, 491-498, 2002.
54. Kang K.R., Kim J.S., Chung S.I., **Park M.H.**, Kim Y.W, Lim D. and Lee S.Y. Deoxyhypusine synthase is phosphorylated by protein kinase C *in vivo* as well as *in vitro*. *Exp Mol Med* 34, 489-495, 2002.
55. Leethanakul C., Knezevic V., Patel V., Amornphimoltham P., Gillespie J., Shillitoe E.J., Emko P., **Park M.H.**, Emmert-Buck M.R., Strausberg R.L., Krizman D.B. and Gutkind J.S. Gene discovery in oral squamous cell carcinoma through the Head and Neck Cancer Genome Anatomy Project: confirmation by microarray analysis. *Oral Oncology* 39, 248-258, 2003.
56. Park J.-H., Wolff E.C., Folk J.E. and **Park M.H.** Reversal of the deoxyhypusine synthesis reaction: Generation of spermidine or homospermidine from deoxyhypusine by deoxyhypusine synthase. *J. Biol. Chem.* 278, 32683-32691, 2003.
57. Clement P.M.J., Henderson A., Jenkins Z.A., Smit-McBride Z., Wolff E.C., Hershey J.W.B., **Park M.H.** and Johansson H.E. Identification and characterization of eukaryotic initiation factor 5A-2. *Eur. J. Biochem* 270, 4254-4263, 2003.
58. Cracchiolo B.M., Heller D.S., Clement P.M.J., Wolff E.C., **Park M.H.** and Hanauske-Abel H.M. Aberrant expression of the hypusine-containing eukaryotic initiation factor 5A (eIF5A) in intraepithelial neoplasia of the vulva. *Gynecologic Oncology* 94, 217-222, 2004.
59. Jeon G.A., Lee J.-S., Patel V., Gutkind J.S., Thorgeirsson S., Kim E.C., Chu I.-S. and **Park M.H.** Global gene expression profile of human head and neck squamous carcinoma cell lines. *Int. J. Cancer* 112, 249-258, 2004.

60. Umland T.C., Wolff E.C., **Park M.H.** and Davies D.R. A new crystal structure of deoxyhypusine synthase reveals the configuration of the active site enzyme and of an enzyme:NAD:inhibitor ternary complex. *J. Biol. Chem.* 279, 28697-28705, 2004.
61. Murozumi K., Nishimura K., Shirahata A., **Park M.H.**, Kashiwagi K. and Igarashi K. Independent roles of eIF5A and polyamines in cell proliferation. *Biochem. J.* 385, 779-785, 2005.
62. Kim, E.-C., Hwang Y.-S., Lee, H.-J., Lee, S.-K., Jeon, C.-D., Lee, S.-K., **Park, M.H.**, Yu H.-H., You, Y.-O.. Caesalpinia sappan induces cell death by increasing the expression of p53 and p21^{AF1/CIP1} in head and neck cancer cells. *Amer. J. Chinese Med.*:33:405-14, 2005.
63. Dong Z., Arnold R.J., Mechref Y.S., Novotny M.V., **Park M.H.**, Zhang J.-T. Modulation of DRG-1 expression at both transcriptional and post-transcriptional levels, revealed by cell cycle blocker mimosine and proteomic analysis *Mol. Cell. Proteomics.* 4.7:993-1001, 2005.
64. Lee H.J., Guo H.Y., Lee S.K., Jeon B.H., Jun C.D., Lee S.K., **Park M.H.** and Kim E.C. Effects of nicotine on proliferation, cell cycle and differentiation in immortalized and malignant oral keratinocytes. *J. Oral. Pathol. Med.* 34:436-43, 2005.
65. Park, J.-H., Aravind, L., Wolff, E.C., Kaevel, J., Kim, Y.S. and **Park M.H.** Molecular cloning, expression and structural prediction of deoxyhypusine hydroxylase: a novel HEAT-repeat-containing metalloenzyme. *Proc. Natl. Acad. Sci. US.*,:103:51-6, 2006.
66. **Park M.H.** The post-translational synthesis of a polyamine-derived amino acid, hypusine, in the eukaryotic translation initiation factor 5A (eIF5A). *J. Biochem.*139:161-9, 2006.
67. Clement, P.M.J., Johansson, H.E., Wolff, E.C. and **Park M.H.** Differential expression of eIF5A-1 and eIF5A-2 in human cancer cells. *FEBS J.* 273: 1102-14, 2006.
68. Kim Y.S., Kang K.R., Wolff E.C., Bell J.K., McPhie P. and **Park M.H.** Deoxyhypusine hydroxylase is a Fe(II)-dependent HEAT-repeat enzyme: Identification of amino acid residues critical for Fe(II) binding and catalysis. *J. Biol. Chem.*281:13217-25, 2006.
69. Wolff E.C., Kang K.R., Kim Y.S. and **Park M.H.** Posttranslational synthesis of hypusine: evolutionary progression and specificity of the hypusine modification. *Amino Acids.* 33:341-50, 2007.
70. Kang K.R., Kim Y.S., Wolff E.C. and **Park M.H.** Specificity of the deoxyhypusine hydroxylase-eIF5A interactions: Identification of amino acid residues of the enzyme required for binding of its substrate, deoxyhypusine-containing eIF5A. *J. Biol. Chem.* 282:8300-8, 2007.
71. Huang Y., Higginson D.S., Hester L., **Park M.H.** and Snyder S.H. Neuronal growth and survival mediated by eIF5A, a polyamine-modified translation initiation factor. *Proc. Natl. Acad. Sci. USA.*104: 4194-99, 2007.
72. Cano V.S.P., Jeon G.A., Johansson H.E., Henderson J.A., Park J.H., Valentini S.R., Hershey J.W.B. and **Park M.H.** Mutational analyses of human eIF5A-1: Identification of amino acid residues critical for hypusine modification and eIF5A activity. *FEBS Journal.* 275: 44-58, 2008.
73. Dias C.A.O., Cano V.S.P., Rangel S.M., Apponi L.H., Frigieri M.C., Muniz R.C.C., Garcia W., **Park M.H.**, Garratt R.C., Zanelli C.F. and Valentini S.R. Structural modeling

and mutational analysis of yeast eIF5A reveal new residues and reinforce its involvement in protein synthesis. *FEBS Journal in press*

Submitted

74. Chanttopadhyay M.K., **Park M.H.** and Tabor H. Only minimal concentration of spermidine is needed for hypusine formation and growth of *Sacharomyces cerevisiae* polyamine auxotrophs. *Proc. Natl. Acad. Sci USA submitted*
75. Hanauske-Abel H.M., Saxena D., Hoque M., Mathews M.B., Pe'ery T., D'Alliessi Gandolfi D., **Park M.H.**, Wolff E.C., Cracchiolo B.M., Hanauske A.-R., Popowicz A.M. and Palumbo P. Infection by HIV-1 and hydroxylation of eIF5A: Inhibition by the topical fungicide ciclopirox and implications for sexual HIV-1 transmission. *Biochim.Biophys. Acta submitted*

Book Chapters and Proceedings

76. **Park M.H.**, Cooper H.L. and Folk J.E.) Chromatographic identification of hypusine [N^ε-(4-amino-2-hydroxybutyl)lysine] and deoxyhypusine [N^ε-(4-aminobutyl)lysine]. *Methods in Enzymology* 94: 458-462, 1983.
77. Cooper H.L., **Park M.H.** and Folk J.E. Hypusine formation: A unique posttranslational modification of translation initiation factor eIF-4D. *Methods in Enzymology* 106: 344-351, 1984.
78. **Park M.H.**, Abbruzzese A. and Folk J.E. Post-translational formation of hypusine: biogenesis of translation initiation factor eIF-4D. In: Zappia V., Galletti, P., Porta, R. and Wold F. eds: *Advances in Post-translational Modifications of Protein and Aging*. Plenum Press, pp 633-640, 1988.
79. **Park M.H.**, Wolff E.C., Abbruzzese A. and Folk J.E. Biosynthesis of hypusine in eIF-4D precursors. In: Zappia V and Pegg AE eds. *Progress in Polyamine Research*. New York, NY: Plenum Press, pp. 435-447, 1988.
80. Abbruzzese A., Liguori V. and **Park M.H.** Deoxyhypusine hydroxylase. In: Zappia, V and Pegg AE, eds. *Progress in Polyamine Research*. New York, NY: Plenum Press, pp. 459-466, 1988.
81. Lee Y.B. and **Park M.H.** Inhibitors of deoxyhypusine synthase: structural features and biological study. *Proc. 7th KSEA Northeast Regional Conf.* pp 95-99, 1996.