

CURRICULUM VITAE

Name: Myung Hee Park

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 Section, OPCB, NIDCR, NIH
2009-present Research Chemist, GS-15 Oral and Pharyngeal Cancer Branch, NIDCR, NIH
1996-2009 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

Professional membership and associations:

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

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; 10/527,453 601-1-135PCT WO 2004/024087 25 March 2004; Hanauske-Abel HM, Popowicz A, Wolff EC, Clement PMJ, Park MH, Cracchiolo BM. Methods of Diagnosing and Treating Hyperproliferative Disorders E308-2033 /3-PCT-02

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

Editorial Responsibilities:

2010-present	Editorial Board member: International Journal of Biochemistry and Molecular Biology
1999- 2008	Editorial Board Member: Archives of Pharmacal Research
1997-1998	Editorial Board Member: Journal of Biomedical Research

Invited Lectures and Symposium Presentations:

2011 Annual Bioscience and Engineering Symposium, Vienna, VA, Nov 5, 2011
2011 College of Medicine, Catholic University of Korea, Seoul, Korea, Aug 11, 2011
2011 National Cancer Center, Goyang-Si, Gyeonggi-do, Korea, Aug 12, 2011
2010 International Conference on the Role of Polyamines and their Analogs in Cancer and Other Diseases, Tivoli, Italy, Dec 3, 2010
2010 the International Polyamine Conference: Progress in medicine and life sciences, June 16, 2010, at Gotemba Kogen, Japan
2010 Gyeongsang National University, School of Medicine, Jinju, Korea, June 21, 2010
2010 Gyeongsang National University, Environmental Biotechnology National Core Research Center, Jinju, Korea, June 21, 2010
2010 Dept of Life Sciences, Dongguk University, Seoul Korea, June 23, 2010
2009 International Congress on Amino Acids, Peptides and Proteins, Aug 2009, Vienna, Austria
2009 Gordon Research Conference on Polyamines, June 2009, Waterville Valley, NH
2008 Forty years of mammalian ornithine decarboxylase, June 2008, Kuopio, Finland
2008 US Korea Conference, Bioscience and Technology Symposium, Aug 2008, San Diego, CA
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
 2004 Gordon Research Conference on Polyamines, New London, Connecticut
 2004 International Conference on Polyamines, Kazusa Arc, Japan
 2003 The US Korea Conference, Pasadena, CA
 2002 Annual Meeting of the Japanese Society of Biochemistry, Kyoto, Japan
 2002 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
 1998 Cancer Research Institute, Catholic University, Seoul, Korea
 Key Myung University Medical School, Taegu, Korea
 Kangnung National University College of Dentistry, Kangnung, Korea
 1996 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
 1995 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
 1988 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
 1983 Gordon Conference on Polyamines, New London, NH

Research Services:

Intramural

- 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
 2001 Search Committee, Laboratory of Retinal Cell and Molecular Biology, National Eye Institute
 2004 Search Committee for a senior scientist, NIDCR, NIH
 2006 Review committee for the NIH National Graduate Student Research Festival
 2007 Review committee for the NIH National Graduate Student Research Festival

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

PUBLICATIONS

1. Lusk JE and **Park MH**. (1975) Phospholipase activity plays no role on the action of colicin K. *Biochim. Biophys. Acta* 394: 129-134.
2. **Park MH**, Wong BB and Lusk JE. (1976) Mutants in three genes affecting transport of magnesium in *Escherichia coli.*: Genetics and physiology. *J. Bacteriology* 126: 1096-1103.
3. **Park MH**, Berg WH and Buchanan JM (1979) The formation of plasminogen activator during viral transformation of chick embryo fibroblasts. *Chem. Phys. of Human Plasma Proteins* 315-328.
4. Folk JE, **Park MH**, Chung SI, Schrode J, Lester EP and Cooper HL (1980) Polyamines as physiological substrates for transglutaminases. *J. Biol. Chem.* 255: 3695-3700.
5. **Park MH**, Cooper HL and Folk JE (1981) 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.
6. **Park MH**, Cooper HL and Folk JE (1982) The biosynthesis of protein-bound hypusine [N⁻(4-amino-2-hydroxybutyl)lysine]: lysine as the amino acid precursor and the intermediate role of deoxyhypusine [N⁻(4-aminobutyl)lysine]. *J. Biol. Chem.* 257: 7217-7222.
7. Cooper HL, **Park MH** and Folk JE (1982) 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.
8. **Park MH**, Cooper HL and Folk JE (1983) Chromatographic identification of hypusine [N⁻(4-amino-2-hydroxybutyl)lysine] and deoxyhypusine [N⁻(4-aminobutyl)lysine]. *Methods in Enzymology* 94: 458-462.
9. Cooper HL, **Park MH**, Folk JE, Safer B and Braverman R (1983) Identification of the hypusine-containing protein Hy⁺ as translation initiation factor eIF-4D. *Proc. NatlAcad. Sci. USA* 80: 1854-1857.
10. Cooper HL, **Park MH** and Folk JE (1984) Hypusine formation: A unique posttranslational modification of translation initiation factor eIF-4D. *Methods in Enzymology* 106: 344-351.
11. **Park MH**, Chung SI, Cooper HL and Folk JE (1984) The mammalian hypusine-containing protein, eIF-4D. structural homology of this protein from several species. *J. Biol. Chem.* 259: 4563-4565.
12. **Park MH**, Liberato DJ, Yergey AL and Folk JE (1984) The biosynthesis of hypusine [N⁻(4-amino-2-hydroxybutyl)lysine]: alignment of the butylamine segment and source of the secondary amino nitrogen. *J. Biol. Chem.* 259: 12123- 12127.
13. Abbruzzese A, **Park MH** and Folk JE (1986) Deoxyhypusine hydroxylase from rat testis: partial purification and characterization. *J. Biol. Chem.* 261: 3085-3089.
14. Abbruzzese A, **Park MH** and Folk JE (1986) Indirect assays for deoxyhypusine hydroxylase using dual-label ratio changes and oxidative release of radioactivity. *Anal. Biochem.* 154: 664-670.
15. **Park MH** and Folk JE (1986) Biosynthetic labeling of hypusine in mammalian cells: carbon-hydrogen bond fissions revealed by dual-labeling. *J. Biol. Chem.* 261: 14108-14111.

16. **Park MH**, Liu TY, Neece SH and Swiggard WJ (1986) 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.
17. Abbruzzese A, **Park MH** and Folk JE (1987) Hypusine biosynthesis: studies on deoxyhypusine hydroxylase. *Italian J. Biochem.* 36: 45A-48A.
18. **Park MH** (1987) Regulation of biosynthesis of hypusine in Chinese hamster ovary cells: evidence for eIF-4D precursor polypeptides. *J. Biol. Chem.* 262: 12730-12734.
19. **Park MH**, Abbruzzese A and Folk JE (1988) 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,.
20. Abbruzzese A, Liguori V, Isernia T and **Park MH** (1988) Inhibition of deoxyhypusine hydroxylase by polyamines. *Italian J. Biochem.* 37: 187A-189A.
21. **Park MH** (1988) Identification of an eukaryotic initiation factor 4D precursor in spermidine-depleted Chinese hamster ovary cells. *J. Biol. Chem.* 263: 7447-7449.
22. **Park MH** and Wolff EC (1988) 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.
23. **Park MH**, Wolff EC, Abbruzzese A and Folk JE (1988) 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.
24. Abbruzzese A, Liguori V and **Park MH** (1988) Deoxyhypusine hydroxylase. In: Zappia, V and Pegg AE, eds. *Progress in Polyamine Research*. New York, NY: Plenum Press, pp. 459-466.
25. Abbruzzese A, **Park MH**, Beninati S and Folk JE (1989) Inhibition of deoxyhypusine hydroxylase by polyamines and by a deoxyhypusine peptide. *Biochim. Biophys. Acta* 997: 248-255.
26. **Park MH** (1989) 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.
27. Wolff EC, **Park MH** and Folk JE (1990) Cleavage of spermidine as the first step in deoxyhypusine synthesis. *J. Biol. Chem.* 265: 4793-3799.
28. Abbruzzese A, Hanauske-Abel HM, **Park MH**, Henke S and Folk JE (1991) 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.
29. Chung SI, **Park MH** Folk JE and Lewis MS (1991) Eukaryotic initiation factor 5A: the molecular form of the hypusine-containing protein from human erythrocytes. *Biochim. Biophys. Acta* 1076: 448-451.
30. **Park MH**, Wolff EC, Smit-McBride Z, Hershey JWB and Folk JE (1991) Comparison of the activities of variant forms of eIF-4D: the requirement for hypusine or deoxyhypusine. *J. Biol. Chem.* 266: 7988-7994.
31. Wolff EC, Kinzy TG, Merrick WC and **Park MH** (1992) 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.

32. **Park MH**, Wolff EC, and Folk JE (1993) Review. Hypusine: its post-translational formation in eukaryotic initiation factor 5A and its potential role in cellular regulation. *BioFactors* 4: 95-104.
33. Jakus J, Wolff EC, **Park MH** and Folk JE (1993) 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.
34. Rinaudo MS, Joe YA and **Park MH** (1993) Cloning and sequencing of a chick embryo cDNA encoding the 20-kDa hypusine-containing protein, eIF-5A. *Gene* 137: 303-307.
35. **Park MH**, Wolff EC and Folk JE (1993) Review. Is hypusine essential for eukaryotic cell proliferation? *Trends in Biochemical Sciences* 18: 475-479.
36. Hanauske-Abel, HM, **Park MH**, Hanauske A-R, Popowicz AM, Lalande M and Folk JE (1994) Inhibition of G1-S transition by inhibitors of deoxyhypusine hydroxylation. *Biochem. Biophys. Acta.* 1221: 115-124.
37. Joe YA and **Park MH** (1994) Structural features of the eIF-5A precursor required for post-translational synthesis of deoxyhypusine. *J. Biol. Chem.* 269: 25916-25921.
38. **Park MH**, Wolff EC, Lee YB and Folk JE (1994) Antiproliferative effects of inhibitors of deoxyhypusine synthase: inhibition of growth of Chinese hamster ovary cells by guanyl diamines. *J. Biol. Chem.* 269: 27827-27832.
39. McCaffrey TA, Pomerantz KB, Sanborn TA, Spokojny AM, Du B, **Park, MH**, Folk JE, Lamberg A, Kivirikko KI, Falcone DJ, Mehta SB and Hanauske-Abel HM (1995) 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.
40. Wolff EC, Lee YB, Chung SI, Folk JE and **Park MH** (1995) Deoxyhypusine synthase from rat testis: purification and characterization. *J. Biol Chem.* 270: 8660-8666.
41. Lee YB, Wolff EC, **Park MH** and Folk JE (1995) Diamine and triamine analogs and derivatives as inhibitors of deoxyhypusine synthase: synthesis and biological activity. *J. Med. Chem.* 38: 3053-3061.
42. Kang KR, Wolff EC, **Park MH**, Folk JE. and Chung SI (1995) Identification of *YHR068w* in *Saccharomyces cerevisiae* as a gene for deoxyhypusine synthase: expression and characterization of the enzyme. *J. Biol. Chem.* 270: 18408-18412.
43. Joe YA, Wolff EC and **Park MH** (1995) Cloning and expression of human deoxyhypusine synthase cDNA: structure-function studies with the recombinant enzyme and mutant proteins. *J. Biol. Chem.* 270: 22386-22393.
44. Lee YB, Joe YA and **Park MH** (1995) Inhibitors of hypusine biosynthesis: potential anticancer agents. *J. Biomed. Res.* 5: 46-52
45. **Park MH**, Joe YA, Kang KR, Lee YB and Wolff EC (1996) The polyamine-derived amino acid hypusine: its posttranslational formation in eIF-5A and its role in cell proliferation. *Amino Acids* 10: 109-121.
46. Lee YB and **Park MH** (1996) Inhibitors of deoxyhypusine synthase: structural features and biological study. *Proc. 7th KSEA Northeast Regional Conf.* (1996): pp 95-99
47. Wolff EC, Folk JE and **Park MH** (1997) Enzyme-substrate intermediate at lysine-329 of human deoxyhypusine synthase. *J. Biol. Chem.* 272: 15865-15871
48. **Park MH**, Lee YB and Joe YA (1997) Hypusine is essential for eukaryotic cell proliferation. *Biol. Signals* 6: 115-123

49. Joe YA, Wolff EC, Lee YB and **Park MH** (1997) 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
50. **Park MH**, Joe YA and Kang KR (1998) Deoxyhypusine synthase activity is essential for cell viability in the yeast *Saccharomyces cerevisiae*. *J. Biol. Chem.* 273: 1677-1683
51. Liao D-I, Wolff EC, **Park MH** and Davies DR (1998) 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
52. Wolff EC and **Park MH** (1999) Identification of Lysine³⁵⁰ of yeast deoxyhypusine synthase as the site of enzyme intermediate formation. *Yeast* 15: 43-50
53. Lee YB, Joe YA, Wolff EC, Dimitriadis EK and **Park MH** (1999): Complex formation between human deoxyhypusine synthase and its protein substrate, the eIF5A precursor. *Biochem. J.* 340: 273-281
54. Wolff EC, Wolff J and **Park MH** (2000): Deoxyhypusine synthase generates and uses bound NADH in a transient hydride transfer mechanism. *J. Biol. Chem.* 275, 9170-9177
55. Lee CH, Marekov LN, Kim SY, Brahim JS, **Park MH** and Steinert PM (2000) Small proline-rich protein 1 is a major component of cornified cell envelope of normal human oral keratinocytes. *FEBS Lett.* 477, 268-272
56. Lee CH and **Park MH** (2000) Human deoxyhypusine synthase: Interrelationship between the binding of NAD and substrates. *Biochem. J.* 352, 851-857
57. Lee CH, Um P and **Park MH** (2001) Structure/function studies of human deoxyhypusine synthase: Identification of amino acids critical for the binding of spermidine and NAD. *Biochem. J.* 355, 841-849
58. Lee Y, Kim HK, Kim YY, **Park MH** and Joe YA (2002) 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
59. Clement PMJ, Hanauske-Abel HM, Wolff EC, Kleinman HK and **Park MH** (2002) The antifungal drug ciclopirox inhibits deoxyhypusine and proline hydroxylation, endothelial cell growth and angiogenesis *in vitro*. *Int. J. Cancer* 100, 491-498
60. Kang KR, Kim J.S, Chung SI, **Park M H**, Kim Y W, Lim D and Lee S.Y (2002) Deoxyhypusine synthase is phosphorylated by protein kinase C *in vivo* as well as *in vitro*. *Exp Mol Med* 34, 489-495
61. Leethanakul C, Knezevic V, Patel V, Amornphimoltham P, Gillespie J, Shillitoe EJ, Emko P, **Park MH**, Emmert-Buck MR, Strausberg RL, Krizman DB and Gutkind JS (2003) 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
62. Park J-H, Wolff EC, Folk JE and **Park MH** (2003) Reversal of the deoxyhypusine synthesis reaction: Generation of spermidine or homospermidine from deoxyhypusine by deoxyhypusine synthase. *J. Biol. Chem.* 278, 32683-32691
63. Clement PMJ, Henderson A, Jenkins ZA, Smit-McBride Z, Wolff EC, Hershey JWB., **Park MH** and Johansson HE (2003) Identification and characterization of eukaryotic initiation factor 5A-2. *Eur. J. Biochem* 270, 4254-4263
64. Cracchiolo BM, Heller DS, Clement PMJ, Wolff EC, **Park MH** and Hanauske-Abel HM (2004) Aberrant expression of the hypusine-containing eukaryotic initiation factor 5A (eIF5A) in intraepithelial neoplasia of the vulva. *Gynecologic Oncology* 94, 217-222
65. Jeon GA, Lee J-S, Patel V, Gutkind JS, Thorgeirsson S, Kim EC, Chu I-S and **Park MH** (2004) Global gene expression profile of human head and neck squamous carcinoma cell lines. *Int. J. Cancer* 112, 249-258

66. Umland TC, Wolff EC, **Park MH** and Davies DR (2004) 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
67. Nishimura K, Murozumi K, Shirahata A, **Park MH**, Kashiwagi K and Igarashi K (2005) Independent roles of eIF5A and polyamines in cell proliferation. *Biochem. J.* 385, 779-785
68. Kim E-C, Hwang Y-S, Lee H-J, Lee S-K, **Park, MH**, Jeon, B-H, Jeon C-D, Lee S-K, Yu H-H and You, Y-O. (2005) 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 PMID: 16047558
69. Dong Z, Arnold RJ, Mechref YS, Novotny MV, **Park MH**, Zhang J-T. (2005) Modulation of Differentiation-related Gene-1 expression by cell cycle blocker mimosine revealed by proteomic analysis *Mol. Cell. Proteomics.* 4.7:993-1001
70. Lee HJ, Guo HY, Lee SK, Jeon BH, Jun CD, Lee SK, **Park MH** and Kim EC. (2005) Effects of nicotine on proliferation, cell cycle and differentiation in immortalized and malignant oral keratinocytes. *J. Oral. Pathol. Med.* 34:436-43
71. Park, J-H, Aravind, L, Wolff, EC, Kaevel, J, Kim, YS and **Park MH**. (2006) Molecular cloning, expression and structural prediction of deoxyhypusine hydroxylase: a novel HEAT-repeat-containing metalloenzyme, *Proc. Natl. Acad. Sci. USA* 103:51-6.
72. Clement, P. M. J., Johansson, H. E., Wolff, E. C. and **Park MH**. (2006) Differential expression of eIF5A-1 and eIF5A-2 in human cancer cells. *FEBS J.* 273: 1102-14.
73. Kim YS, Kang KR, Wolff EC, Bell JK, McPhie P and **Park MH**. (2006) 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
74. **Park MH**. The post-translational synthesis of a polyamine-derived amino acid, hypusine, in the eukaryotic translation initiation factor 5A (eIF5A). (2006) *J. Biochem.* 139:161-9
75. Kang KR, Kim YS, Wolff EC and **Park MH**. (2007) 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
76. Wolff EC, Kang KR, Kim YS and **Park MH**. (2007) Posttranslational synthesis of hypusine: evolutionary progression and specificity of the hypusine modification. *Amino Acids.* 33:341-50
77. Huang Y, Higginson DS, Hester L, **Park MH** and Snyder SH. (2007) Neuronal growth and survival mediated by eIF5A, a polyamine-modified translation initiation factor. *Proc. Natl. Acad. Sci. USA* 104: 4194-99
78. Cano VSP, Jeon GA, Johansson HE, Henderson JA, Park JH, Valentini SR, Hershey JWB and **Park MH** (2008) Mutational analyses of human eIF5A-1: Identification of amino acid residues critical for hypusine modification and eIF5A activity. *FEBS Journal* 275: 44-58
79. Dias CAO, Cano VSP, Rangel SM, Apponi LH, Frigieri MC, Muniz RCC, Garcia W, **Park MH**, Garratt RC, Zanelli CF and Valentini SR. (2008) Structural modeling and mutational analysis of yeast eIF5A reveal new residues and reinforce its involvement in protein synthesis. *FEBS Journal* 275: 1874-1888

80. Chattopadhyay MK, **Park MH** and Tabor H. (2008) Hypusine modification for growth is the major function of spermidine in *Saccharomyces cerevisiae* polyamine auxotrophs grown in limiting spermidine. Proc Natl Acad Sci USA 105: 6554-6559
81. Lee SB, Park JH, Kaevel JK, Sramkova M, Weigert R and **Park MH**. (2009) The effect of hypusine modification on the intracellular localization of eIF5A, Biochem. Biophys. Res. Commun. 383: 497-502, PMID 19379712
82. Vu VV, Emerson JP, Martinho M, Kim YS, Munck E, **Park MH** and Que L. (2009) Human deoxyhypusine hydroxylase, an enzyme involved in regulating cell growth, activates O₂ with a nonheme diiron center. Proc. Natl. Acad. Sci. USA 106:14814-14819 PMID 19706422
83. Hoque M, Hanauske-Abel HM, Palumbo P, Saxena D, Gandolfi DD, **Park MH**, Pe'ery T and Mathews MB. (2009) Inhibition of HIV-1 gene expression by ciclopirox and deferiprone, drugs that prevent hypusination of eukaryotic initiation factor 5A, Retrovirology, Oct 13; 6:90, PMID 19825182
84. Chawla B, Jhingran A, Singh S, Tyagi N, **Park MH**, Srinicasan N, Roberts SC, and Madhubala R (2010) Identification and characterization of a novel deoxyhypusine synthase in *Leishmania donovani*, J. Biol. Chem. 285:453-463 PMID 19880510
85. Cano VSP, Medrano FJ, **Park MH** and Valentini SR. (2010) Evidence for conformational changes of the yeast deoxyhypusine hydroxylase Lia1 upon iron displacement from its active site. Amino Acids 38:479-490 PMID 19956996
86. Park, M. H., Nishimura, K., Zanelli, C. F. and Valentini, S. R. (2010) Functional significance of eIF5A and its hypusine modification in eukaryotes. Amino Acids 38:491-500, PMID 19997760
87. Landau GB, Bercovich Z, **Park MH** and Kahana C (2010) The role of polyamines in supporting growth of mammalian cells is mediated through their requirement for translation initiation and elongation J Biol Chem 285:12474-12481, PMID 20181941
88. Lee SB, Park J-H, Woster PM, Casero RA and **Park MH**. (2010) Suppression of exogenous gene expression by spermidine/spermine-N¹-acetyltransferase (SSAT1) cotransfection, J Biol Chem 285:15548-15556 PMID 20212040
89. Lee SB, Park J-H, Folk JE, Deck JA, Pegg AE, Sokabe M, Fraser CS and **Park MH** (2011) Inactivation of eukaryotic initiation factor 5A (eIF5A) by specific acetylation of its hypusine residue by spermidine/spermine acetyltransferase 1 (SSAT1), Biochem J 433: 205-213 PMID 20942800
90. Wolff EC, Lee SB and **Park MH**. (2011) Assay of deoxyhypusine synthase activity. Methods in Molecular Biology 720: 195-205 PMID 21318875
91. Park J-H, Wolff EC and **Park MH**. (2011) Assay of deoxyhypusine hydroxylase activity, Methods in Molecular Biology 720: 207-216 PMID 21318876
92. Park J-H, Dias CAO, Lee SB, Valentini SR, Sokabe M, Fraser CS and **Park MH** (2011) Production of active recombinant eIF5A: reconstitution in E. coli of eukaryotic hypusine modification of eIF5A by its coexpression with modifying enzymes, Protein Eng. Des. Sel. 24: 301-309,
93. Yum S, Choi J, Hong S, **Park MH**, Lee J, Ha N-C and Jung Y (2011) Hyperoxia attenuates the inhibitory effect of nitric oxide donors on HIF prolyl-4- hydroxylase-2: Implication on discriminative action of nitric oxide on HIF prolyl-4-hydroxylase-2 and collagen prolyl-4- hydroxylase, Biochemical Pharmacology 82:485-90

94. Cerrada-Gimenez M, Weisell J, Hyvönen MT, **Park MH**, Alhonen L, Vepsäläinen J and Keinänen TA (2011) Complex *N*-acetylation of Triethylenetetramine. *Drug Metabolism and Disposition* 39:2242-2249
95. Dias CAO, Gregio APB, Rossi D, Galvao FC, Watanabe TF, **Park MH**, Valentini SR and Zanelli CF. (2012) eIF5A interacts functionally with eEF2. *Amino Acids in press* Aug 6, 2011 [Epub ahead of print]
96. Nishimura K, Lee, SB, Park J-H and **Park MH**. (2012) Essential role of eIF5A-1 and deoxyhypusine synthase in mouse embryonic development. *Amino Acids in press* Aug 18, 2011 [Epub ahead of print]
97. Hyvonen, MT, Keinanen TA, Khomutov M, Simonian A, Vepsalainen J, Park J-H, Khomutov AR, Alhonen L and **Park MH**. (2012) Effects of novel C-methylated spermidine analogs on cell growth via hypusination of eukaryotic translation initiation factor 5A. *Amino Acids in press* Aug 23, 2011 [Epub ahead of print]
98. Park J-H, Johansson HE, Aoki H, Huang BX, Kim H-Y, Ganoza MC and **Park MH** (2012) Post-translational modification by β -lysylation is required for the activity of *E. coli* Elongation Factor P (EF-P). *J Biol Chem in press* Nov 29 2011 [Epub ahead of print]
99. Caraglia M, **Park MH**, Wolff EC, Marra M and Abbruzzese A. (2012) eIF5A isoforms and cancer: two brothers for two functions? *Amino Acids in press* Dec 3, 2011 [Epub ahead of print]