

## CURRICULUM VITAE

Name and Address	Kuk-Wha Lee MD PhD FAAP 11780 Pecan Way Loma Linda, CA 92354 Ph: (909) 799-1510 E-mail: kukwhalee@mednet.ucla.edu
Present Position	Assistant Professor, Pediatric Endocrinology Training Program Director Mattel Children's Hospital at UCLA David Geffen School of Medicine at UCLA 10833 Le Conte Ave., MDCC 22-315 Los Angeles, CA 90095 Ph: (310) 825-6244 FAX: (310) 206-5843 July 2004-present
Personal	
Date of Birth	September 11, 1968
Place of Birth	Seoul, Korea
Citizenship	USA
Marital Status	Married
Spouse	Daniel J. Won, MD
Dependent	Timothy DOB 5/94 Mitchell DOB 10/96
Religion	Seventh-Day Adventist
Education	
B.S. Chemistry	Southwestern Adventist College Keene, TX May 1988 Minors: Biology, Physics, Mathematics

**Note: PhD/MD via Medical Scientist Training Program 1988-1996**

Ph.D. Microbiology	Loma Linda University Loma Linda, CA March 1995
Thesis title	“Transcriptional regulation of insulin-like growth factor binding protein-4 (IGFBP-4) by protein kinase A and protein kinase C regulatory mechanisms in human bone cells”
M.D.	Loma Linda University School of Medicine Loma Linda, CA May 1996
Residency	Pediatrics Loma Linda University Children’s Hospital July 1997-June 2000
Fellowship	Pediatric Endocrinology Mattel Children’s Hospital at UCLA July 2000-June 2003
Previous Position	Clinical Instructor, Pediatric Endocrinology Mattel Children’s Hospital at UCLA July 2002-June 2004
Board	American Board of Pediatrics October 2000
Subboard	Pediatric Endocrinology August 2005
Current Position	Assistant Professor in Residence July 2004  Training Program Director August 2007
Research Experience	Synthesis and NMR analysis of Lithium organometallic compounds Karen Hansen, Ph.D. North Texas State University June 1985-August 1985

Molecular Genetics of *hsdR* and *hsdM* Restriction-Modification systems in *E.coli* K12

Junichi Ryu, Ph.D.  
Loma Linda University  
June 1986-August 1986

Sequencing the mHA gene (Bacterial Chemotaxis)

Barry Taylor, Ph.D.  
Loma Linda University  
June 1987-December 1988

Transcriptional Regulation of the human Insulin-like growth factor binding protein (IGFBP-4) gene

Donna D. Strong  
Division of Mineral Metbolism  
Jerry Pettis VA MedicalCenter  
Loma Linda, CA  
June 1989-March 1996

Functional Interactions Between RXR, Nur77, and IGFBP-3 in the Regulation of Cellular Growth and Apoptosis in human carcinoma

Pinchas Cohen, MD  
Pediatric Endocrinology  
Mattel Children's Hosp at UCLA  
Los Angeles, CA  
July 2000-June 2003

Examination

NBME, Part I          June 1991  
USMLE, Part II        March 1996  
USMLE, Part III       December 1997  
American Board of Pediatrics    October 2000  
American Board of Pediatrics  
Subboard Endocrinology        August 2005

Medical License

California A065975

Honors

Magna cum laude  
Who's Who in American Colleges and Univ.  
Minority Fellowship in Chemical Res, NTSU

Summer Fellowship in Biomed Research, LLU  
Medical Scientist Training Prog Scholarship  
UCLA Department of Pediatrics Res Award

Current Funding

Giannini Foundation Fellow  
2001-2003

UCLA CHCRC-K12 Award  
2004-2006

UCLA/UCSD DERC P & F  
2004-2005

UCLA Stein-Oppenheimer Endowment Award  
2004-2005

Lawson Wilkins Pediatric Endocrine Society  
Genentech Clinical Scholar  
2004-2006

Leadership

American Medical Student Association  
President, Loma Linda Chapter (1990-1991)

Memberships

American Academy of Pediatrics  
Amer. Assoc. for the Advancement of Science  
Endocrine Society  
Lawson Wilkins Pediatric Endocrine Society  
American Diabetes Association  
Society for Pediatric Research

Honors and Awards

1986 Minority Summer Fellowship in Chemical Research, NTSU  
1987 Summer Fellowship in Biomedical Research, LLU  
1988 Magna cum laude  
1989 Who's who in American Colleges and Universities  
1990 Medical Scientist Training Program Scholarship  
1992 American Medical Student Association, President  
2001 Giannini Family (Bank of America) Foundation Fellow  
2003 UCLA Department of Pediatrics Fellows Award for Basic Research  
2004 Stein-Oppenheimer Award

2004 LWPES/Genentech Clinical Scholar  
2005 UCLA / UCSD DERC Developmental Award  
2006 UCLA Prostate Cancer SPORE Career Development Award  
2007 Phase One Foundation Clinical Scientist Development Award

Publications (peer reviewed)

1. Mohan S, Strong DD, Hilliker S, Malpe R, **Lee K**, Farley J, Baylink DJ. 1993. Dibutyl cyclic adenosine monophosphate differentially regulates cell proliferation in low and high alkaline phosphatase SaOS-2 human osteosarcoma cells: Evidence for mediation by the insulin-like growth factor-II system. *J Cell Phys*. 156:462-468.
2. Qin X, Morales S, **Lee KW**, Boonyaratanakornkit V, Baylink DJ, Mohan S, Strong DD. Structural and functional analysis of the 5' flanking region of the human insulin-like growth factor binding protein (IGFBP)-4 gene. *Biochimica et Biophysica Acta* . 1350:136-140.
3. Wetterau LA, Moore MG, **Lee KW**, Shim ML, Cohen P. 1999. Novel aspects of the insulin-like growth factor binding proteins. *Mol Genet Metab* 68:161-81.
4. **Lee KW**, Sherwin T, Won D. 1999. An alternate technique to close neurosurgical incisions using octylcyanoacrylate adhesive. *Pediatric Neurosurgery* 31:110-114.
5. **Lee KW**, McCleary M, Zuppan CW, Won D. 2000. Langerhans cells histiocytosis presenting as an intracranial epidural hematoma. *Pediatric Radiology* 30:326-328.
6. **Lee KW**, Cohen P. 2001. Individualizing GH therapy in children. *Hormone Research* 56(Suppl 1): 29-34.
7. Rajah R, **Lee KW**, Cohen P. 2002. Insulin-like Growth Factor Binding Protein-3 (IGFBP-3) mediates TNF- $\alpha$  Induced Apoptosis: Role of Bcl-2 Phosphorylation. *Cell Growth and Differ* 13:163-71.
8. **Lee KW**, Cohen P. 2002. Nuclear Effects: Unexpected Intracellular Actions of Insulin-like Growth Binding Protein-(IGFBP-3). *J Endocrinology* 175:33-40.
9. Ikonen M, Liu B, Hashimoto Y, Niikura T, **Lee KW**, Nishimoto I, Cohen P. 2003. Interaction between the Alzheimer's survival peptide humanin and insulin-like growth factor-binding protein 3 regulates cell survival and apoptosis. *Proc Natl Acad Sciences USA* 100:13042-13047.
10. Ali O, Cohen P, **Lee KW**. 2003. Epidemiology and Biology of Insulin-like Growth Factor Binding Protein-3 (IGFBP-3) as an anti-cancer molecule. *Horm Metab Res* 35: 726-733.

11. **Lee KW**, Lee PDK. 2004. Growth Hormone Deficiency (GHD): A New Association in Peters' Plus Syndrome (PPS). *Am J Hum Genet* 124A: 388-391.
12. **Lee KW**, Liu B, Ma L, Li H, Bang P, Koeffler HP, Cohen P. 2004. Cellular Internalization of Insulin-like Growth Factor Binding Protein-3: DISTINCT ENDOCYTIC PATHWAYS FACILITATE RE-UPTAKE AND NUCLEAR LOCALIZATION. *J. Biol. Chem.* 279: 469-476.
13. **Lee KW**, Ma L, Yan X, Liu B, Zhang XK, Cohen P. 2005. Rapid apoptosis induction by IGFBP-3 involves an IGF -independent nucleo-mitochondrial translocation of RXR $\alpha$ /Nur77. *J Biol Chem.* 280:16942-8.
14. Ralli M, Cohan P, **Lee KW**. 2005. Successful I-131 Therapy of Pediatric Well-Differentiated Thyroid Cancer Using Recombinant Human Thyrotropin. *J Endo Invest.* 28: 270-273.
15. Liu B, **Lee KW**, Li H, Ma L, Chandraratna RA, Cohen P. 2005. Combination therapy of Insulin-like Growth Factor Binding Protein-3 (IGFBP-3) and RXR ligands synergize on prostate cancer cell apoptosis *in vitro* and *in vivo*. *Clin Cancer Res* 11:4851-6.
16. Cobb LJ, Liu B, **Lee KW**, Cohen P. 2006. Phosphorylation by DNA-PK is functionally critical for apoptosis induction by IGFBP-3. *Cancer Res.* 66(22):10878-10884.
17. Liu B, **Lee KW**, Anzo M, Zhang B, Zi X, Tao Y, Shiri L, Pollak M, Lin S, Cohen P. 2007. IGFBP-3 inhibition of prostate cancer progression involves suppression of angiogenesis. 26:1811-9. *Oncogene*.
18. Kim HS, Ali O, Shim M, **Lee KW**, Vuguin P, Muzumdar R, Barzilai N, Cohen P. 2007. Insulin-like Growth Factor Binding Protein-3 induces insulin resistance *in vitro* and *in vivo*. *Pediatric Res.* 61:159-164.
19. **Lee KW**, Ma L, Cobb L, Paharkova-Vatchkova V, Liu B, Milbrandt J, Cohen P. 2007. Contribution of the Orphan Nuclear Receptor Nur77 to the Apoptotic Action of IGFBP-3. *Carcinogenesis* 28:1653-1658.
20. Hernandez MI, **Lee KW**. 2007. Neonatal Graves Disease Caused by Transplacental Antibodies. *NeoReviews* 9:e

21. Chang Hoftman A, Hernandez MI, **Lee KW**, Stiehm ER. 2008. Newborn Illnesses Caused by Transplacental Antibodies. *Adv Pediatr* 55: 271-304.
22. Yamada PM, **Lee KW**. 2009. Perspectives in Mammalian IGFBP-3 Biology: Local vs. Systemic Action. *Am J Physiol Cell Physiol*. 296:C954-76
23. Hoang PT, Park P, Cobb LJ, Paharkova-Vatchkova V, Hakimi M, Cohen P, **Lee KW**. 2008. The neurosurvival factor Humanin inhibits beta cell apoptosis via Stat3 activation and delays and ameliorates diabetes in NOD mice. *Metabolism*. 2009 Sep 30. [Epub ahead of print]
24. Paharkova-Vatchkova, V, **Lee KW**. 2009. Nuclear Export and Mitochondrial and ER-targeting of IGFBP-3 regulates its apoptotic properties. Accepted with revision. *Endocrine-Related Cancer*.

### **Manuscripts in Preparation**

1. Paharkova-Vatchkova V, Liu JL, Wang C, **Lee KW**. A BH3-only domain in IGFBP-3 mediates Bax binding and activation.
2. Yamada PM, Mehta HH, Paharkova-Vatchkova V, Lee A, **Lee KW**. Endoplasmic Reticulum Interactions with Grp78 via a BH3-only domain in IGFBP-3 impair insulin-stimulated glucose transport in 3T3L1-adipocytes.

### **Book Chapters**

Chang Hoftman A, Hernandez MI, Lee KW, Steihn ER. 2008. In Press. Newborn illnesses caused by transplacental antibodies. *Advances in Pediatrics*.

Lee, KW. Thyroid Cancer in Children. 2008. In Press. In *Manual of Endocrinology and Metabolism*, 4<sup>th</sup> ed. Ed. N. Lavin. Lipincott, Philadelphia.

### **Oral Presentations**

Lee, K., Rice, K., Kinsley, K., and B.L. Taylor. 1989. Sequencing the mHA Gene (Bacterial Chemotaxis). Presented at the American Society of Microbiology, Atlanta, GA, June 1989.

Lifshutz, J., Lee, K.-W., Perkin, R., Won, D. A modified cranial reduction using circumferential barrel stave wedge osteotomies. The section on Pediatric Neurological Surgery of AAN/CNS. Atlanta, GA. December 1999.

Won, D.J., Lee, K.-W., Sherwin, T. An alternate technique to close neurosurgical incisions using octylcyanoacrylate adhesive. The section on Pediatric Neurological Surgery of AANS/CNS. Atlanta, GA. December 1999.

Lee KW, Ma L, Mascarhenas D, Cohen P. Insulin-like Growth Factor Binding Protein-3 (IGFBP-3) Induces Colon Cancer Cell Death by a p53-related mechanism involving Nuclear Interactions. Society for Pediatric Research/Lawson Wilkins Pediatric Endocrine Society. Baltimore, MD. May 2002.

Lee KW, Ma L, Li H, Liu BR, Peehl D, Zhang X-K, Cohen P. Insulin-like Growth Factor Binding Protein-3 (IGFBP-3) Induces Rapid Nucleo-Mitochondrial Translocation of the Orphan Nuclear Receptor TR3 Leading to Cell Death in Prostate Cancer Cells. The Endocrine Society. San Francisco, CA. June 2002

Lee KW, Ma L, Liu B, Peehl DM, Zhang X-k, Cohen P. A Novel, Rapid, Non-Transcriptional Mechanism of Insulin-like Growth Factor Binding Protein-3 – Induced Apoptosis. First Joint Symposium GH-IGF Society. Boston, MA. October 2002.

Ikonen M, Liu B, Hashimoto Y, Ma L, Lee KW, Nishimoto I, Cohen P. The Novel Anti-Apoptotic Peptide Humanin Binds to IGFBP-3 and Inhibits IGFBP-3-Induced Apoptosis. First Joint Symposium GH-IGF Society. Boston, MA. October 2002.

Lee KW, Ma L, Liu B, Peehl DM, Zhang X-k, Cohen P. Insulin-like Growth Factor Binding Protein-3 (IGFBP-3) Induces Apoptosis via Rapid RXR-dependent TR3 Mitochondrial Targeting in Cancer Cells. Pediatric Academic Societies'/Lawson Wilkins Pediatric Endocrine Society Annual Meeting. Seattle, WA. May 2003.

Lee, KW, Ma L, Liu B, Peehl DM, Zhang XK, Cohen P. Requirement for the nuclear receptor Nur77 in the apoptotic actions of IGFBP-3 *in vitro* and *in vivo*. Second International GH-IGF Symposium. Cairns, Australia. April 2004.

Lee, KW, Ma L, Liu B, Peehl DM, Zhang XK, Cohen P. Insulin-like Growth Factor Binding Protein-3 (IGFBP-3) translocates RXR $\alpha$ /Nur77 heterodimers to mitochondria and synergizes with Nur77 effects in prostate cancer *in vitro* and *in vivo*. Child Health Research Centers Annual Retreat. Ann Arbor, MI. October 2004

Lee KW. Insulin-like Growth Factor Binding Protein-3 as a Cancer Therapy. Endocrine Society, Oral Symposium. San Diego, CA June 2005.

Lee KW. Novel Mechanisms of IGFBP-3 Action. Symposia. LWPES/PAS Annual Meeting. May 2006. San Francisco, CA

Yamada P, Lee KW. Novel Insights into Metabolism Utilizing IGFBP-3 KO mice. GRS/IGF 4<sup>th</sup> International Congress. Genova, Italy. September 2008.

### **Poster presentations**

Lee, K.-W., Mohan, S., Baylink, D.J. and D.D. Strong. 1992. Transcriptional regulation of the human insulin-like growth factor binding protein-4 gene. Oral presentation at the 2<sup>nd</sup> Annual MD-PhD Student Association Meeting, Aspen, CO, April 1992.

Lee, K., Sherwin, T., Won, D. J. An alternate technique to close neurosurgical incisions using octylcyanoacrylate adhesive. Loma Linda University School of Medicine Alumni Post Graduate Convention. Loma Linda, CA. March 2000.

Lee KW, Liu BR, Chen HW, Cohen P. IGFBP-3 Induces Apoptosis by Interaction with RXR and Inducing Nucleocytoplasmic Translocation of TR3 to Mitochondria. Introduction to Molecular and Cellular Research, The Endocrine Society, Miami, FL, March 2001.

Ma L, Mascarhenas D, Cohen P, Lee KW. Insulin-like Groth Factor Binding Protein-3 (IGFBP-3) Induces Colon Cancer Cell Death by a p53-related mechanism involving Nuclear Interactions. American Association for Cancer Research. April 2002.

Stiehm ER, Lee KW, Hernandez MI, Hoftman AC. Historical Perspective: Newborn illnesses caused by Transplacental Antibodies. Socety for Pediatric Research, Honolulu, HI. April 2008.

Hoang PT, Cobb LJ, Cohen P, Lee KW. Humanin Protects beta cells from cytokine-induced apoptosis via ERK and Stat3 activation. Endocrine Society Annual Meeting, San Francisco, CA. June 2008.

Mehta HH, Dwang DL, Sohn JJ, Lue YH, Wang C, Said J, Cohen P, Lee KW. IGFBP-3 is Essential of Prostate Apoptosis Induced by Androgen Deprivation. Endocrine Society Annual Meeting, San Francisco, CA. June 2008.

Yamada PM, Mehta HH, Hwang DL, Cohen P, Lee KW. Genetic Deletion of IGFBP-3 Alters Diet-induced Obesity Associated Inflammatory Markers *in vivo*. Endocrine Society Annual Meeting, San Francisco, CA. June 2008.

Paharkova-Vatchkova V, Lee KW. Identification of a Nuclear Export Sequence (NES) within IGFBP-3 and its Contribution to Apoptosis. Endocrine Society Annual Meeting, San Francisco, CA. June 2008.

Joshi A, Yamada PM, Scherer PE, Lee KW. IGFBP-3 Interacts with

Adiponectin and Modulates Reponse to Diet-induced Obesity. Endocrine Society Annual Meeting, San Francisco, CA. June 2008.