Approved by the Regents
May 17, 2007

PROMOTION RECOMMENDATION
The University of Michigan
College of Pharmacy

Kyung-Dall Lee, associate professor of pharmaceutical sciences, with tenure, College of Pharmacy, is recommended for promotion to professor of pharmaceutical sciences, with tenure, College of Pharmacy.

Academic Degrees:

Ph.D.	1988	University of California, Biophysics, Berkeley
B.S.	1983	Seoul National University, Physics, Korea

Professional Record:

2003	Visiting Scholar, Molecular Cellular Biology and School of Public Health University of California, Berkeley & UCSF Diabetes Center
2001- Present	Associate Professor of Pharmaceutics, Department of Pharmaceutical Sciences, College of Pharmacy, University of Michigan, Ann Arbor
1996- 2001	Assistant Professor of Pharmaceutics, College of Pharmacy, University of Michigan, Ann Arbor
1993- 1996	Instructor, Department of Cell Biology, Department of Neurobiology, Harvard Medical School, Boston
1992- 1993	Mahoney Fellow, Neuroscience Institute, Department of Neurobiology, Harvard Medical School
1989 - 1992	Postdoctoral Research Fellow, Cancer Research Institute (CRI), University of California, S.F. (UCSF)
1984 - 1988	Graduate Research Assistant Lawrence Berkeley Laboratory (LBL), Department of Biophysics, UC Berkeley
1983 - 1985	Graduate Teaching Assistant University of California, Berkeley, Department of Biophysics

Summary of Evaluation:

Teaching – Professor Lee is an excellent to outstanding teacher. Over the past five years, Professor Lee has provided quality lectures on the physicochemical and biopharmaceutical principles underlying dosage form performance in the professional program and on the cellular and molecular aspects of drug delivery in the graduate program. His CRLT ratings for these classes were very high. His superior teaching skills were recognized by his colleagues as he was nominated twice for a College of Pharmacy Teaching Excellence Award, an honor given to only one teacher for a given year. In addition to didactic lectures, Professor Lee has provided research training to a large number of graduate students, postdoctoral fellows, as well as professional pharmacy and undergraduate students. At present, he is supervising four graduate students, four postdoctoral fellows, one research scientist and one research technician.

Research – Professor Lee is an outstanding researcher who is recognized at the national and international levels as a pioneer in biomolecular drug delivery, especially as it relates to the use of Listeriolysin O (LLO) to facilitate the delivery of macromolecular drugs into cytosol. Because of this novel approach, along with his ability to combine cellular, molecular and biophysical sciences in addressing drug targeting, Professor Lee has been enormously successful in obtaining extramural

support for his research. In this regard, he currently has five NIH grants (two as PI, two as PI of subcontracts, and one as co-PI), totaling about $3 million in direct funds. This is truly an outstanding achievement given the current funding climate at NIH and bodes well for his continued success. Moreover, Dr. Lee is a leader in the pharmaceutical and biomedical sciences as evidenced by his numerous invited presentations at scientific meetings, his participation on NIH Scientific Review Panels, his co-authorship of an AAPS Meritorious Manuscript Award, and his selection as vice-chair (2006) and chair (2008) of the Gordon Research Conference on "Drug Carriers in Medicine and Biology." Since his promotion to associate professor, Professor Lee has published 17 peer-reviewed articles with two currently in review (i.e., about four papers per year). Moreover, Professor Lee has invested his time in producing papers that reflect quality, as judged by the impact factor for many of these publications (e.g., IF of 4.836 for *Gene Therapy*; IF of 5.854 for *J Biol Chem*; IF of 10.231 for *Proc Natl Acad Sci USA*; IF of 13.965 for *J Exp Med*). Given his creativity and enriched resources from NIH, it is anticipated that Dr. Lee will continue to have significant peer-reviewed publications in the years to come.

Recent and Significant Publications

G. Saito, G.L. Amidon, and **K.-D. Lee** (2003) Enhanced Cytosolic Delivery ofPlasmid DNA by a Sulfhydryl-Activatable Listeriolysin O/Protamine Conjugate UtilizingCellular Reducing Potential. *Gene Therapy* 10, 72-83.

C.J. Provoda, E. Stier and **K.-D. Lee** (2003) Tumor Cell-killing enabled bylisteriolysin O-liposome-mediated delivery of the protein toxin gelonin. *The Journal of Biological Chemistry* 278, 35102-35108.

E. Mathew, G. Hardee, C.F. Bennett, **K.-D. Lee** (2003) Efficient cytosolic deliveryof murine ICAM-specific oligonucleotides using LLO-containing liposomes. *Gene Therapy* 10, 1105-1115.

M. Mandal, K.S. Kawamura, E.J. Wherry, R. Ahmed, **K-D. Lee** (2004) Cytosolic Delivery of Viral Nucleoprotein by Listeriolysin O-Liposome Induces enhanced Specific Cytotoxic T Lymphocyte Response and protective Immunity. *Molecular Pharmaceutics* 1, 2-8.

C.G. Park, N.W. Thiex, J. Bluestone and **K.-D. Lee** (2003) Targeting and blocking B7 costimulatory molecules on macrophages by CTLA4-Ig conjugated liposomes: in vitro and in vivo characterization and biodistribution. *Pharmaceutical Research* 20, 1239-1248.

Service – Professor Lee is regarded as being excellent to outstanding in his service component. He has coordinated departmental seminars, was a member and former chair of the Shared Instrumentation Committee, and is currently a member of the Research Resources Committee and Executive Committee of the College. He recently served an important role in the development of the first Alumni Science Symposium sponsored by the College of Pharmacy. More broadly, Professor Lee is associate editor of *Molecular Pharmaceutics*, an editorial board member of the *Journal of Korean Pharmaceutical Sciences*, and is the executive director of the Korean-American Pharmaceutical Scientists Association. He has also served as an *ad hoc* member of several NIH Scientific Review Panels (i.e., Study Sections) and given numerous invited presentations at national and international scientific meetings.

External Reviewers:
Reviewer (A) "This is truly an extraordinary level of extramural support in the current funding climate and bodes well for increases in both the number and quality of his independent research publications."

Reviewer (B) "I personally consider Kyung-Dall Lee as a brilliant scientist who has achieved major success in the field of drug delivery and particularly in the design of smart intracellular delivery systems."

Reviewer (C) "The ability to integrate findings from other fields to produce a new paradigm within your own field demonstrates true leadership and vision. By his accomplishments with LLO, Dr. Lee has demonstrated that he is such a leader among his peers."

Reviewer (D) "As a former chair of the Promotion and Tenure committee for the University of Washington, School of Pharmacy, one who is looking at his accomplishments, I must say that he is a candidate at risk of being recruited by other institutions."

Reviewer (E) "Kyung-Dall is an excellent scholar. His studies on the design and mechanism of action of new gene and drug delivery strategies are outstanding. Dr. Lee's approach, based on the cellular invasion of bacteria, is unique in the drug delivery community."
Reviewer (F) "In my opinion, Dr. Lee is one of the leaders in pharmaceutical sciences of his generation. His work on cellular drug targeting, based on the endosomolytic activity of listeriolysin O, is innovative and timely."

Reviewer (G) "He has currently five active NIH grants and this is something to notice by the university. In this difficult time of federal funding, having five NIH proposals at the same time indicates that Professor Lee is well above the extraordinary level."

Reviewer (H) "In conclusion, it is most evident that Dr. Kyung-Dall Lee is an outstanding academician who has been recognized nationally and internationally as one of the leaders in the area of macromolecular delivery to immune cells."

Reviewer (I) "On the basis of Dr. Lee's research output, success in obtaining extramural research support, and service to and recognition in the field of pharmaceutical sciences, I would rank Dr. Lee in the top 10% of his peers."

Reviewer (J) "His research is published in high impact journals (*J Exp Med, PNAS, Mol Pharm, and J Biol Chem*) and the results can be characterized as novel, pioneering, and well documented."

Reviewer (K) "It is clear from this and other aspects of his research program that Dr. Lee is a leader and not a follower in the field of pharmaceutical sciences and that he would be a valuable asset for any School of Pharmacy."

Reviewer (L) "I feel confident and qualified enough in my profession to evaluate Dr. Lee's accomplishments and designate him as an excellent scientist making important contributions to pharmaceutical sciences, particularly in the area of drug and gene delivery and biopharmaceutics."

Reviewer (M) "In my own research area, I have been regularly citing one of his papers (Saito et al, Gene Ther 10:72, 2003) because it is a masterpiece."

Summary of Recommendation:
Professor Lee has demonstrated excellent to outstanding performance in his teaching, research and service responsibilities. Particular strengths reside in his novel and pioneering research program, and his ability to fund them with substantial NIH awards. Moreover, it is clear that Professor Lee's research program will continue to grow and that he will develop even further as a leader in the pharmaceutical and biomedical sciences. It is with the unanimous support of the Departmental Chair, Promotion Review Committee, and College of Pharmacy Executive Committee that I strongly recommend Kyung-Dall Lee for promotion to professor of pharmaceutical sciences, with tenure, College of Pharmacy.

Frank J. Ascione, Dean
College of Pharmacy

May 2007