

PROMOTION RECOMMENDATION
University of Michigan
College of Pharmacy

Duxin Sun, associate professor of pharmaceutical sciences, with tenure, Department of Pharmaceutical Sciences, College of Pharmacy, is recommended for promotion to professor of pharmaceutical sciences, with tenure, Department of Pharmaceutical Sciences, College of Pharmacy.

Academic Degrees:

Ph.D. 2002 University of Michigan, College of Pharmacy
M.S. 1992 Second Military Medical University, School of Pharmacy, Shanghai, China
B.S. 1986 Second Military Medical University, School of Pharmacy, Shanghai, China

Professional Record:

2008-present Associate Professor of Pharmaceutical Sciences (with tenure), Department of Pharmaceutical Sciences, College of Pharmacy, University of Michigan
2003-2008 Assistant Professor, Division of Pharmaceutics, College of Pharmacy, The Ohio State University
2002-2003 Research Investigator II, Bristol-Myers Squibb Company, New Brunswick, NJ

Summary of Evaluation:

Teaching: Professor Sun is an extremely dedicated educator, who is very successful in both the classroom and in mentoring students. His broad perspective as a multidisciplinary scientist has enabled him to mentor a diverse set of students and teach a broad range of topics. His teaching evaluations are very strong, ranging 4.1-4.8 on a 5-point scale, and include positive written comments from students. In addition to his didactic teaching responsibilities, he is an extremely active mentor, having graduated 14 PhD students thus far and currently mentoring six others. He has also mentored numerous post-doctoral fellows and visiting scientists (18 total) and 10 MS and BS students, which is quite impressive for an academic career that started approximately 10 years ago. His lab members are presenting their work at key conferences and publishing in strong journals, an indication of the high quality of Professor Sun's training.

Research: Professor Sun is an outstanding and highly productive scientist with a national and international reputation. He is well-known for his work in the area of cancer therapeutics and is currently conducting four distinct but interdependent research programs in this broad area. Professor Sun has published 99 peer-reviewed manuscripts in high impact journals and eight book chapters, with an additional 21 publications in various stages of preparation. With an h-factor of 23, his work has been cited numerous times. He holds seven patents and has two in review. Professor Sun has been extremely successful in gaining funding for his work. He currently has several grants as the principal investigator (two NIH, one NCI Cancer Center Core Grant, and one FDA) plus 11 NIH grants as a co-investigator with colleagues in the Medical

School, demonstrating his success as an independent investigator as well as collaborator. His contributions to the field have had significant impact, and he has received numerous invitations to present his work.

Recent and Significant Publications:

- Tao Zhang, Yanyan Li, Yiqun Jiang, and Duxin Sun. Characterization of celastrol to inhibit Hsp90 and Cdc37 interaction. *J Biol Chem*, 2009, 284: 35381.
- Yiqun Jiang, Denzil Bernard, Yanke Yu, Yehua Xie, Tao Zhang, Yanyan Li, Joseph Burnett, Xueqi Fu, Shaomeng Wang, and Duxin Sun. Split Renilla Luciferase Protein-Fragment-Assisted Complementation (SRL-PFAC) to Characterize Hsp90/Cdc37 Complex and Identify Critical Residues in Protein-Protein Interactions. *J Biol Chem*, 2010, 285:21023-36.
- Yanyan Li, Tao Zhang, Hasan Korkaya, Suling Liu, Yanke Yu, Hsiu-Fang Lee, Bryan Newman, Shawn G. Clouthier, Steven J. Schwartz, Max S. Wicha, and Duxin Sun. Sulforaphane, a Dietary Component of Broccoli/Broccoli Sprouts, Inhibits Breast Cancer Stem Cells. *Clinical Cancer Research*, 2010, 16: 2580-90.
- Bryan Newman, Yan Liu, Hsiu-Fang Lee, Duxin Sun*, and Yin Wang*. HSP90 inhibitor 17-AAG selectively abrogates hematological cancer stem cells. *Cancer Research*, 2012, 72(17):4551-61 (*co-corresponding authors).
- Zou P, Yu Y, Wang YA, Zhong Y, Welton AR, Galbán C, Wang S, and Sun D. Superparamagnetic iron oxide "nanotheranostics" for targeted cancer cell imaging and pHdependent intracellular drug release. *Mol Pharm*. 2010, 7: 1974.
- Zheng N, Zou P, Wang S, and Sun D. In Vitro Metabolism of 17-(dimethylaminoethylamino)-17-demethoxygeldanamycin (17-DMAG) in Human Liver Microsomes. *Drug Metab Dispos*. 2011, 39:627-35.
- Lanyan Fang, and Duxin Sun. Predictive physiological based pharmacokinetic (PBPK) analysis for antibody directed enzyme prodrug therapy (ADEPT). *Drug Metabolism and Disposition*, 2008, 36: 1153.

Service: Professor Sun is an excellent citizen to his discipline, the college, and the university. He has served on at least 16 NIH review panels in the last eight years and has reviewed grants from a diverse set of non-NIH resources including the Food and Drug Administration multiple times, the Italian Ministry of Health, the French National Research Agency, and the North Carolina Biotechnology Center. He is an active member of the American Association of Pharmaceutical Scientists (AAPS), having served on several committees and organized countless conferences, roundtables, and focus groups. Professor Sun has reviewed for numerous prestigious journals across many disciplines. At the University of Michigan he has served on several committees, including the College of Pharmacy Executive Committee and the university's Faculty Senate Assembly. He is very involved in his committee work, which is remarkable considering his other research and teaching commitments. Professor Sun also established the Pharmacokinetics Core, as part of the university's NIH Cancer Center Support Grant, and serves as its director, which is another substantial service commitment to the University of Michigan.

External Reviewers:

Reviewer A: "...Dr. Sun has run an extremely productive laboratory. He has established a pharmacokinetics core at the University of Michigan, which has led to more than 20 collaborative research publications.... This blending of research in pharmaceuticals and molecular pharmacology is quite unique and impressive, allowing outstanding training opportunities for Dr. Sun's students, while also leading to highly cited publications,... NIH funding,... and to programs for the development of novel agents with therapeutic potential.... He has served as the major advisor for 20 Ph.D. students, with 14 Ph.D. graduates during the past 10 years. This is truly outstanding within our field.... He appears supremely dedicated to doing his part."

Reviewer B: "...his funding record and diverse funding portfolio are commendable.... This important work, which focuses on a potential target for cancer treatment, also has been cited frequently and is an excellent example of his novel scientific contributions.... Dr. Sun is a co-inventor on seven patents; two additional patent applications have been filed.... he has an international reputation in the field.... His service to his profession, particularly AAPS, is noteworthy.... His success in grantsmanship and collaborative research is impressive.... He has established a portfolio of invited presentations and similar activities that documents a national/international reputation."

Reviewer C: "Dr. Sun has clearly established his commitment to teaching.... His commitment to graduate education is clear based on his continuous output of ~1-2 successful Ph.D. graduates each year.... Dr. Sun has compiled a distinguished record of research, and his research program remains on a growth trajectory.... This is an outstanding publication rate that meets or exceeds that of many of Dr. Sun's peers at similar institutions. It is equally important to note that Dr. Sun is either lead or corresponding author on most of these publications, which clearly demonstrates that he leads a highly productive research team addressing important research problems...."

Reviewer D: "I put his research productivity at the outstanding category.... Dr. Sun has increased his reach in professional service to a level consistent with Full Professor.... He is now a well-recognized scholar on the international stage.... Students were very positive about the learning experience, and many appreciated his effort for helping them learn very difficult subjects.... I am very impressed with his training record.... I have no doubt that his productivity is superior to many senior faculty members...."

Reviewer E: "In all areas of research, Dr. Sun has made significant contributions.... His work with breast cancer stem cells is also top-notch. Dr. Sun is already recognized as one of the front leaders in developing therapeutic strategies against this class of cancer precursor cells.... One of Dr. Sun's greatest strengths in research is his ability to productively collaborate.... These collaborations have resulted in the award of several prestigious grants and the publication of papers in highly esteemed journals.... He is clearly one of the best pharmaceuticals faculty members in country."

Reviewer F: "... the innovativeness of his research will be a driving force of progress in many areas of pharmaceutical science. Dr. Sun is widely recognized by the scientific community....His broad expertise in his interdisciplinary area is extraordinary....Dr. Sun has greatly contributed to graduate education....Dr. Sun's service to the University, to the profession, and to the scientific community is excellent."

Reviewer G: "Dr. Sun is recognized by his peers, having published in top journals of cancer research and pharmaceuticals.... He is serving as the PI of five active grants, an impressive achievement when considering the current climate of budget cuts and competitiveness. Noteworthy is that Dr. Sun is the co-investigator of 10 collaborative grants....Dr. Sun is working in an area of medical significance. He is advancing cancer therapy with innovative and complimentary strategies."

Reviewer H: "Dr. Sun's papers represent important research which reveals novel experimental facts that are essential and may contribute a substantial amount of knowledge in the fields of study....Many of these journals have a significant impact factor....Dr. Sun's papers have been frequently cited by other scientists from the field....such scientific productivity is absolutely exceptional. All the aforementioned accomplishments provide strong evidence that Dr. Sun's research productivity is OUTSTANDING."

Reviewer I: "He has been consistently publishing in high quality journals.... top tier, high impact journals with high rejection rates.... Dr. Sun's h-index is greater than many faculty members in our field who are already at the full professor level....His nine patent applications attest to the novelty of his research and reinforces my opinion that his research programs are highly innovative....The strength of his research program lies in the breadth of activities (his four research foci) that range from basic research all the way through to clinical translation. This is an outstanding attribute and Dr. Sun is far ahead of many of his peers in this regard....Dr. Sun's teaching philosophy is refreshing and seems to be positively reviewed by students who participate in his class."

Reviewer J: "Based on his publication record, his grant record and his speaking record, his teaching and service record, this one is a 'no brainer.'...this is one of the best records I have seen for an associate professor being considered for promotion to full professor....The area of Dr. Sun's research is timely, critical to the national interest....His publication record ... is in the 'superior' or 'above expectations' level. The publications are not only numerous but in the best journals. His 2004 AAPS Meritorious Manuscript Award... is for the best manuscript in one of the top journals in our field.... To consistently have this type of funding says that his peers...respect his work and consider it novel and cutting edge....Dr. Sun is an excellent scientist with a superior record."

Review K: "Dr. Sun has developed himself as an internationally known pharmaceutical scientist.... Dr. Sun has fully developed four very impressive research programs, which are currently well funded and all have great potential to attract more external funding based on the cutting edge research topics...."

Reviewer L: “Dr. Sun has made considerable contributions in teaching.... Dr. Sun’s publication record is truly outstanding. Dr. Sun has an outstanding funding record....This is roughly two patents per year, a significant generation of intellectual property....His research record is truly world-class...”

Internal Reviewers

Reviewer M: “...I have found Duxin to be a great collaborator—always open to discussing new research ideas and a great willingness to contribute his perspective and expertise....Dr. Sun is very willing and able to take on the many challenges associated with clinical studies....This is a very valuable asset to the College of Pharmacy as it strives to contribute to translational science from the bench to the bedside....I am impressed with Duxin’s contributions at national meeting symposia and seminars....Dr. Sun has demonstrated clear evidence of leadership, capability, interest, and contribution to teaching and education.”

Reviewer N: “His research program is well-funded by NIH and FDA and he has trained a significant number of PhD students and post-doctoral fellows. He is evidently a strong collaborator....I have always found him to be collegial and insightful....Dr. Sun is a strong faculty member in all aspects of teaching, research and service and is a positive asset to our college.”

Summary of Recommendation:

Professor Duxin Sun is an outstanding scientist, who is making a significant impact in the area of cancer therapies. He is a dedicated and gifted teacher who is also committed to serving his profession and university in meaningful ways. It is with the enthusiastic support of the College of Pharmacy Executive Committee that I recommend Duxin Sun for promotion to professor of pharmaceutical sciences, with tenure, Department of Pharmaceutical Sciences, College of Pharmacy.



Frank J. Ascione
Dean, College of Pharmacy

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