

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF PHARMACOLOGY

Gregory G. Tall, Ph.D., associate professor of pharmacology, with tenure, Department of Pharmacology, Medical School, is recommended for promotion to professor of pharmacology, with tenure, Department of Pharmacology, at the University of Michigan Medical School.

Academic Degrees

Ph.D.	2000	University of Texas Southwestern Medical Center, Dallas, TX
B.S.	1994	Bucknell University, Lewisburg, PA

Professional Record:

2016 - Present	Associate Professor (with tenure), Department of Pharmacology, University of Michigan, Ann Arbor, MI
2014 - 2016	Associate Professor (without tenure), Department of Pharmacology and Physiology, University of Rochester Medical Center, Rochester, NY
2007 - 2014	Assistant Professor, Department of Pharmacology and Physiology, University of Rochester Medical Center, Rochester, NY
2006 - 2007	Instructor, Department of Pharmacology, University of Texas Southwestern Medical Center, Dallas, TX

Summary of Evaluation:

Teaching: Dr. Tall teaches through both didactic teaching and research mentorship. Didactic teaching spans courses in human genetics, pharmacology, chemical biology, dental pharmacology, and ethics. As the course director for the Dental Pharmacology 503 course, he collaborated with the School of Dentistry to integrate content that accommodated the reformatted dental board exam sections for pharmacology. Research learners include advanced post-graduate fellows, graduate students, medical students, post-doctoral fellows, undergraduate students, and visiting scholars. His evaluations are very good to excellent and several of his mentees have won awards and published first author manuscripts.

Research: Dr. Tall is an expert in the G protein field specializing in the key protein responsible for maintaining the homeostasis of the G protein alpha-subunits, and he has become a leader in the field of adhesion GPCRS. His research has been continuously funded by the National Institutes of Health (NIH) since 2009 with numerous grants from the NIH. He is currently a principal investigator on three large grants, including an NIH R35 and two NIH R01 grants. He has one disclosure for GPR56-based anticoagulants and coagulants. He has authored 54 peer reviewed manuscripts in high impact journals, including *Nature* and the *Proceedings of the National Academy of Sciences*, demonstrating his leadership of the science. Dr. Tall has been invited to present his research on 58 occasions nationally and internationally including in Germany, Canada, Italy, and Australia.

Recent and Significant Publications:

Barros-Álvarez X, Nwokonko RM, Vizurraga A, Matzov D, He F, Papasergi-Scott MM, Robertson MJ, Panova O, Yardeni EH, Alpay SB, Kwarcinski F, Su H, Peroto MC, Meyerowitz JG, Shalev-Benami M, Tall GG, Skiniotis G, "The tethered peptide activation mechanism of adhesion GPCRS," *Nature* 2022 Apr 13;. doi: 10.1038/s41586-022-04575-7. PubMed PMID: 35418682.

- Seven AB, Hilger D, Papasergi-Scott MM, Zhang L, Qu Q, Kobilka BK, Tall GG, Skiniotis G, “Structures of G α Proteins in Complex with Their Chaperone Reveal Quality Control Mechanisms,” *Cell Reports*. 2020 Mar 17;30(11):3699-3709.e6. PubMed PMID: 32126208; PubMed Central PMCID: PMC7192526.
- Yeung J, Adili R, Stringham EN, Luo R, Vizurraga A, Rosselli-Murai LK, Stoveken HM, Yu M, Piao X, Holinstat M, Tall GG, “GPR56/ADGRG1 is a platelet collagen responsive GPCR and hemostatic sensor of shear force,” *Proceedings of the National Academy of Sciences*. 2020 Oct 23;202008921. doi: 10.1073/pnas.2008921117. PMID: 33097663.
- Stoveken HM, Larsen SD, Smrcka AV, and Tall GG, “Gedunin- and Khivorin Derivatives Are Small-Molecule Partial Agonists for Adhesion G Protein-Coupled Receptors GPR56/ADGRG1 and GPR114/ADGRG5,” *Molecular Pharmacology* 2018; 93(5):477-488. PMID: 29476042. PMCID: PMC4998661.
- Papasergi-Scott MM, Stoveken HM, MacConnachie L, Chan P-Y, Gabay M, Wong D, Freeman RS, Beg AA, and Tall GG, “Dual phosphorylation of Ric-8A within a conserved acidic region dictates G protein α subunit guanine nucleotide exchange and folding activities,” *Science Signaling* 2018; 11(532), eaap8113. PMID: 29844055.

Service: Dr. Tall has an outstanding service record. Internationally, he has been the co-chair of the Great Lakes G Protein-Coupled Receptor Retreat and has served as ad hoc on two international study sections for the National Sciences and Engineering Research Council of Canada, and the Swiss National Science Foundation. Nationally, Dr. Tall has served the American Society for Pharmacology and Experimental Therapeutics (ASPET) in several capacities, including as symposium co-chair, and as past chair of the Division of Molecular Pharmacology. He has been an ad hoc reviewer for several NIH study sections and is currently a standing member of the NIH CSRS study section. He is an editorial board member for *Molecular Pharmacology* and the *Journal of Biological Chemistry* and is an ad-hoc reviewer for many scientific journals. Institutionally, Dr. Tall serves on several departmental committees, including the Pharmacology Graduate Program Committee and as Chair of the Pharmacology Equipment Committee. He is an ad hoc grant reviewer for the UM Ono Initiative Breakthrough Science Awards Program. He has served on numerous dissertation committees, and examination committees.

External Reviewers:

Reviewer A: “I would rate Dr. Tall at the top of his field! He has essentially developed this unique niche of heterotrimeric G protein folding and on-receptor GEF activity. In addition, he developed a new area of study with his adhesion GPCR work...His international reputation is most evident in the many seminars he gives per year at universities and national and international meetings...”

Reviewer B: “Since 2009 his research has been continuously supported through R01 grants from NIH, and this year he received a 5 year award through the NIGMS MIRA investigator granting program. This sustained level of funding, together with the depth and rigor of his publications, is a good harbinger of sustained and meaningful contributions to the field.”

Reviewer C: “He has trained and continues to train postdoctoral fellows, undergraduate and graduate students in his research program. His trainees have been able to secure training fellowships from NIH or AHA. This is indicative of Dr. Tall’s outstanding mentorship. I believe that Dr. Tall’s lab and his research program combined with his excellent mentorship skills will no doubt continue to attract high caliber postdoctoral fellows and graduate students to the University of Michigan and to his lab.”

Reviewer D: “I find productivity of Dr. Tall to be exceptional. As an independent investigator, his laboratory has published close to 50 manuscripts. This is an incredibly high publication rate as compared to many mid-career researchers, including investigators in my Department. Importantly, these papers are published in the highest quality venues including PNAS, JBC, eLife, Cell Reports, Science Signaling, and Nature. Dr. Tall serves as a senior corresponding author on many of them.”


Reviewer E: “Finally, I would like to comment on his teaching, mentoring, and service activities. He has been a team player in the classrooms at his institutions, has taught numerous lectures in the areas of pharmacology and signal transduction, and has directed courses involving pharmacology to dental students. He has served as a dissertation member on numerous student committees at both Rochester and Michigan and is frequently invited to give seminars on his research throughout the US and abroad.”

Reviewer F: “In summary I have nothing but admiration and praise for Professor Tall. He is a superb scientist, mentor/educator and great citizen of science. He continues to work on important and high impact projects and accordingly produces creative, provocative and high impact publications. He has established many productive collaborations with renown faculty at the University of Michigan and internationally, leading to both high profile publications and extramural funding.”

Reviewer G: “The quality of Dr. Tall’s work is also reflected in his ability to attract grant funding as principal investigator on multiple NIH grants bringing in over \$1 M each year, an impressive accomplishment. In addition, Dr. Tall is very active in the G protein research community reviewing NIH grants and manuscripts, and participating in the ASPET Division of Molecular Pharmacology. He attends all the important meetings and is well respected for his contributions to G protein signaling.”

Summary of Recommendations:

Dr. Tall is an internationally recognized expert in G protein/GPRC biology, signal transduction, and G protein structure. He has made significant contributions to the understanding of basic mechanisms underlying GPRC mediated signal transduction and translation of this information to novel therapeutic targets. He has demonstrated a significant commitment to teaching and research training. Therefore, I am pleased to recommend Gregory G. Tall, Ph.D. for promotion to professor of pharmacology, with tenure, Department of Pharmacology, Medical School.



Marschall S. Runge, M.D., Ph.D.
Executive Vice President for Medical Affairs
Dean, Medical School

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