



Bin Wang, Ph.D.

PRINCIPAL

Lincoln Office

55 Old Bedford Road, Lincoln, MA 01773

978.202.3444

Bin.Wang@hbsr.com

HAMILTON
BROOK SMITH
REYNOLDS

Intellectual Property Law

PRACTICE AREAS

- Patents
- Trademarks
- IP Diligence

TECHNOLOGIES

- Biotechnology and Life Sciences
- Biologics and Immunotherapies
- Pharmaceuticals
- Bioinformatics
- Medical Devices

EDUCATION

- Baylor University Law School, J.D., cum laude
- University of Texas, Ph.D. in Molecular Biology
- Fudan University, Shanghai, China, B.S. in Genetics

BAR ADMISSIONS

- U.S. Patent and Trademark Office
- Texas

Bin Wang, Ph.D., is a biologist-turned-attorney focusing her patent practices on biotechnology and pharmaceutical inventions. Bin has represented biotech, pharmaceutical, and venture capital companies and academic institutions in patent drafting, prosecution, global portfolio development, and invalidity and non-infringement analyses. Bin has advised clients on numerous matters relating to oncology, immunology, cell biology, molecular biology, microbiology, and biochemistry, including matters in the following technology areas:

- Antigen-binding molecules, including diagnostic and therapeutic antibodies for oncology, infectious disease, autoimmune, and inflammatory indications
- Transgenic and gene therapy approaches
- CRISPR-based gene editing and epigenetic modifications
- Cell-based therapeutics using chimeric antigen receptor (CAR) cells, embryonic and adult stem cells, and erythrocytes
- Peptide vaccines
- Linear and circular RNA therapeutics
- Small molecule therapeutics, including hormones, kinase inhibitors, cytokine-modulating agents, and anti-aging agents
- Drug delivery across the brain-blood barrier
- Engineering and screening of drug delivery carriers, including adeno-associated viruses (AAV) and lipid nanoparticles (LNP)
- Fc CH3 heterodimerization platforms
- Methods of treating or preventing cancer, viral, bacterial, and fungal infections, autoimmune and inflammatory diseases, neurodegenerative diseases, ischemic stroke, bone marrow failure, preterm labor, mitochondrial neurogastrointestinal encephalomyopathy, uterine contractility disorders, and systemic endotoxemia
- Cellular Rejuvenation and Treating Age-related Degeneration
- Personalized medicine for cancer, neurodegenerative diseases, liver diseases, and traumatic brain injury
- High-throughput omics including single-cell genomics, RNA-seq, and proteomics, epigenomics, and microbiomics
- Ribosome profiling
- Protein nanowires

**PROFESSIONAL
ASSOCIATIONS**

- American Bar Association, Member of Intellectual Property Law, Science & Technology Law, and Litigation Sections
- Member of the Biophysical Society; the American Heart Association
- Reviewer, Proceedings of the National Academy of Sciences of the USA, 2014; PLOS ONE, 2013

Bin Wang received her Ph.D. in Molecular Biology. She was a postdoctoral fellow at Stanford University, and a postdoctoral fellow and Research Assistant Professor at The University of Texas Health Science Center in San Antonio. Bin was a recipient of the Stanford University Dean's Postdoctoral Fellowship, the NIH Individual National Research Service Award, and the American Heart Associate Early Career Award.

Dr. Wang is the author of over twenty peer-reviewed scientific articles in journals such as Nature, Nature Immunology, Cell, Development, Human Molecular Genetics, Journal of Biological Chemistry, Journal of General Physiology, American Journal of Physiology-Lung Cellular and Molecular Physiology, Molecular Psychiatry, Invertebrate Neuroscience, Experimental Biology, Neuroscience, European Journal of Neuroscience, and Frontiers in Physiology. Dr. Wang wrote two book chapters, one for Encyclopedia of Basic Epilepsy Research and the other for Ion Channels, Methods and Protocols.

Dr. Wang got her law degree from Baylor Law School, where she received Dean's Academic Excellence Full Scholarship, Jim Barlow Memorial Award, Loy M. Simpkins Memorial Award, and Thomas M. Featherston, Jr. Estate Planning Award. In addition, she served as a judicial extern at The Eastern District of Texas with Magistrate Judge K. Nicole Mitchell.

Prior to joining the firm Bin served as a judicial extern at Law Clerk to The Eastern District of Texas, United States District Court Judge K. Nicole Mitchell. After completing her Ph.D., Bin was a Postdoctoral Fellow at Stanford University, a Postdoctoral Fellow and an Assistant Professor of Research at The University of Texas Health Science Center at San Antonio. Bin has been the recipient of many awards and honors, including the Dean's Postdoctoral Fellowship from Stanford University, the Dean's Academic Excellence Full Scholarship, Jim Barlow Memorial Award, Loy M. Simpkins Memorial Award, and Thomas M. Featherston, Jr. Estate Planning Award from Baylor Law School, and NIH Individual National Research Service Award.

In 2023, Bin received distinction in Best Lawyers: Ones to Watch in America™ for her patent law expertise.

Bin is the author of over twenty scientific articles and book contributions including: Development, Nature Immunology, Cell, Nature, Journal of General Physiology, Methods in Molecular Biology, American Journal of Physiology-Lung Cellular and Molecular Physiology, Molecular Psychiatry, Human Molecular Genetics, Invertebrate Neuroscience, Experimental Biology, Neuroscience, European Journal of Neuroscience, and Frontiers in Physiology. Bin wrote two book chapters, one for Encyclopedia of Basic Epilepsy Research and the other for Ion Channels, Methods and Protocols.

ARTICLES

- Cataract-associated connexin 46 mutation alters its interaction with calmodulin and function of hemichannels., Journal of Biological Chemistry, February 16, 2018
- Adiponectin regulates contextual fear extinction and intrinsic excitability of dentate gyrus granule neurons through AdipoR2 receptors, Molecular Psychiatry, May 3, 2016
- Combined single and macroscopic recording techniques to analyze gating mechanisms of the large conductance Ca^{2+} and voltage activated (BK) potassium channel., Methods in Molecular Biology, February 22, 2013
- An extracellular domain of the accessory $\beta 1$ subunit is required for modulating BK channel voltage sensor and gate, Journal of General Physiology, December 12, 2011
- BK channel $\beta 1$ subunits regulate airway contraction secondary to M2 muscarinic acetylcholine receptor mediated depolarization, The Journal of Physiology, March 30, 2011
- Proepileptic Effects of BK Channel Gene Mutations, Encyclopedia of Basic Epilepsy Research, December 1, 2009
- Mechanism of Increased BK Channel Activation from a Channel Mutation that Causes Epilepsy, Journal of General Physiology, February 9, 2009
- Hox Repertoires for Motor Neuron Diversity and Connectivity Gated by a Single Accessory Factor, FoxP1, Cell, July 25, 2008
- Oligomerization of STIM1 couples ER calcium depletion to CRAC channel activation, Nature, July 24, 2008
- An S6 Mutation in BK Channels Reveals $\beta 1$ Subunit Effects on Intrinsic and Voltage-dependent Gating, Journal of General Physiology, November 27, 2006
- BK channel $\beta 1$ -subunit regulation of calcium handling and constriction in tracheal smooth muscle, American Journal of Physiology, October 1, 2006
- Foxp1 is an essential transcriptional regulator of B cell development, Nature Immunology, July 2, 2006
- Mechanism of $\beta 4$ Subunit Modulation of BK Channels, Journal of General Physiology, March 27, 2006
- Foxp1 regulates cardiac outflow tract, endocardial cushion morphogenesis and myocyte proliferation and maturation, Development, May 27, 2004