



## Seiko Brown Ph.D.\*

Patent Agent

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Dr. Seiko Brown is a registered patent agent in the Firm's Washington, D.C. office and is a member of the Firm's Intellectual Property Group.

Dr. Seiko Brown concentrates her practice on a variety of life science and pharmaceutical technology areas including immunology, oncology, pharmacology, nanomedicine, gene therapy, and biotech business.

Prior to joining Baker Donelson, Dr. Brown was a senior analyst at Celdara Medical, where she managed the company's intellectual property portfolio, performed due diligence on technology seeds for potential licensing deals, conducted freedom-to-operate and landscape analyses, and prepared NIH Small Business Innovation Research grant applications. She has assessed hundreds of therapeutic and diagnostic technologies in a wide range of disease space including cancer, autoimmune diseases, infectious diseases, allergy, metabolic and cardiac diseases, neural diseases, and rare and neglected diseases. Dr. Brown also assisted intellectual property firms in Philadelphia and Japan and the technology licensing office of a research university in Japan by providing technical translation and prior art search services.

Dr. Brown received her Ph.D. in Microbiology and Immunology from Dartmouth College. Her thesis work was performed in the laboratory of Professor Steven Fiering and investigated anti-tumor immune responses and therapeutic effects elicited by local hyperthermia induced by iron-oxide nanoparticles and an alternating magnetic field. In collaboration with AspenMedisys, she also analyzed the impact of different surface modifications of nanoparticles on the interaction with immune cells.

Dr. Brown received her B.S. in Pharmaceutical Sciences from the University of Tokyo and obtained the Japanese pharmacist license upon graduation. During her senior year, she worked in the laboratory of Professor Tatsuhiro Irimura and performed screening of glycosylation-dependent monoclonal antibodies against a cancer antigen, Muc21.

### Representative Matters

- Managed the global patent portfolio for a biotechnology startup company developing various therapeutics such as CAR-T cells and small molecules for cancer, antibodies, peptides and gene therapies for infectious diseases, and nanoparticle-based and protein-based anti-inflammatory agents.
- Conducted worldwide patent prosecution in areas such as cell-based therapeutics, antibodies and antibody-drug conjugates, and enzyme-based therapeutics.
- Conducted freedom-to-operate and landscape analyses regarding cell therapy, small molecule combination therapy, gene silencing, gene therapy vectors, allogeneic transplantation, antioxidants, therapeutic protein variants, peptide conjugation, patient preselection methods, and nanoparticle manufacturing.
- Conducted a prior art search on small molecules to support a litigation strategy.

### Professional Honors & Activities

- Reviewer – the International Journal of Hyperthermia (2014)
- 1st-place Poster Award – Cancer Nanotechnology Symposium (December 2013)
- NIH Training Grant – Dartmouth Immunology of Myeloid and Lymphoid Cells (2013)



## Publications

- "Antibody-Mediated Targeting of Iron Oxide Nanoparticles to the Folate Receptor Alpha Increases Tumor Cell Association in Vitro and in Vivo," *International Journal of Nanomedicine* (April 2015)
- "Local Tumor Hyperthermia as Immunotherapy for Metastatic Cancer," *International Journal of Hyperthermia* (December 2014)
- "Stimulating Antitumor Immunity with Nanoparticles," *Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology* (September/October 2014)
- "Local Hyperthermia Treatment of Tumors Induces CD8(+) T Cell-Mediated Resistance Against Distal and Secondary Tumors," *Nanomedicine* (August 2014)
- "Phagocytes Mediate Targeting of Iron Oxide Nanoparticles to Tumors for Cancer Therapy," *Integrative Biology (CAM)*, Volume 5, Issue 1 (January 2013)
- "CD4+ T Cells Elicit Host Immune Responses to MHC Class II-Negative Ovarian Cancer Through CCL5 Secretion and CD40-Mediated Licensing of Dendritic Cells," *Journal of Immunology* (May 2010)



## Education

- Dartmouth College, Ph.D. in Microbiology and Immunology, 2013
- The University of Tokyo, B.S. in Pharmaceutical Sciences, 2008



## Admissions

- United States Patent and Trademark Office, Agent, Registration Number 71427
- Government of Japan, Ministry of Health, Labour and Welfare, Pharmacist, Registration Number 423702

\* Baker Donelson professional not admitted to the practice of law.