





Xiaochu Ma, Ph.D.

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Overview

About Xiaochu

Xiaochu Ma, Ph.D., is a technology specialist and patent agent in the Boston office of Fish & Richardson P.C. Her practice focuses on U.S. and foreign patent drafting and prosecution in the areas of life sciences, including microbiology, virology, biochemistry, molecular biology, and biophysics. Specifically, Xiaochu has experience in technical areas such as antibody development and therapeutics, vaccine development, gene editing technologies, RNA interference, biomaterials, stem cell technologies, anti-cancer therapeutics, and drug development.

Xiaochu conducted her Ph.D. research at Yale University. Her research focused on the mechanism of HIV-1 infection. Using a single molecule fluorescence resonance energy transfer (smFRET) technique, her work revealed a critical intermediate step during the virus' entry into host cells and identified several conformational epitopes for AIDS vaccine design. While at graduate school, Xiaochu was also a technology transfer intern at the office of cooperative research of Yale University, where she gained experience in pre-drafting patentability analysis and marketing and commercialization of innovations.

Focus Areas

Services

- Patent

Industries

- Life Sciences

Education

J.D. expected, Suffolk University Law School (2022)

Ph.D., Microbiology, Yale School of Medicine (2017)

B.S., Biotechnology, Sun Yat-Sen University (2012)

Insights

Publications

- Ma X, Lu M, Gorman J, Terry DS, Hong X, Zhou Z, Zhao H, Altman RB, Arthos J, Blanchard SC, Kwong PD, Munro JB, Mothes W. (2018). HIV-1 Env trimer open through an asymmetric intermediate in which individual protomers adopt distinct conformations. *eLife*. 10.7554/eLife.34271.
- Lu, M., Ma X, L. R. Castillo-Menendez, J. Gorman, U. Ermel, D. S. Terry, M. Chambers, N. Reichard, K. Wang, J. Grover, B. P. Carman, I. Niki?-Spiegel, A. Finzi, E. A. Lemke, C. Abrams, J. B. Munro, P. D. Kwong, A. B. McDermott, S. C. Blanchard, J. G. Sodroski and Mothes W. (2019). Associating HIV-1 Env trimer structures with functional Env conformational states defined by smFRET analysis." *Nature*.
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- Herschhorn A, Ma X, Gu C, Ventura JD, Castillo-Menendez L, Melillo B, Terry DS, Smith AB 3rd, Blanchard SC, Munro JB, Mothes W, Finzi A, Sodroski J. (2016). Release of gp120 Restraints Leads to an Entry-Competent Intermediate State of the HIV-1 Envelope Glycoproteins. *MBio*, 10.1128/mBio.01598-16.
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- Huang J, Joyce MG, Louder MK, Ma X, McKee K, O'Dell S, Pancera M, Yang Y, Blanchard SC, Mothes W, Burton DR, Koff WC, Connors M, Ward AB, Kwong PD, Mascola JR. (2016). Fusion peptide of HIV-1 as a site of vulnerability to neutralizing antibody. *Science* 352:828-833.
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 - Ma X, Zhou S, Wei M, Chen Y, Li J, Xiong W, Jiang S, Pan C. (2012). Phylogenetic and biological analysis of a laboratory-generated gammaretrovirus xenotropic murine leukemia virus-related virus (XMRV). *Virus Genes* Oct; 45(2):218-24.
 - Wang X*, Xiong W*, Ma X*, Wei M, Chen Y, Lu L, Debnath AK, Jiang S, Pan C. The conserved residue Arg46 in the N-terminal heptad repeat domain of HIV-1gp41 is critical for viral fusion and entry. *PLoS One*. (2012);7(9):e44874. doi: 10.1371/journal.pone.0044874.
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Languages

- English
- Mandarin Chinese
- Cantonese Chinese