

# Stanford

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## Mindy Tsai

Sr Res Scientist-Basic Ls, Pathology Sponsored Projects

### CONTACT INFORMATION

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### Bio

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#### BIO

Mindy Tsai is Sr. Research Scientist in the Department of Pathology. She received the D.M.Sc. (Doctor of Medical Sciences) in Oral Biology from Harvard School of Dental Medicine and completed her postdoctoral training at Harvard Medical School. Dr. Tsai's research focuses on studies that are designed to understand the regulation of mast cell and basophil development and to elucidate the roles of these cells in health and disease. Dr. Tsai's research approaches include in vitro analyses of mast cells and basophils in human and mice, as well as using mouse models of disease to investigate the effector and immunoregulatory functions of these cells *in vivo*.

### Publications

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#### PUBLICATIONS

- **Combining avidin with CD63 improves basophil activation test accuracy in classifying peanut allergy.** *Allergy*  
Castaño, N., Chua, K., Kaushik, A., Kim, S., Cordts, S. C., Nafarzadegan, C. D., Hofmann, G. H., Seastedt, H., Schuetz, J. P., Dunham, D., Parsons, E. S., Tsai, M., Cao, et al  
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- **CD8+ T cell differentiation status correlates with the feasibility of sustained unresponsiveness following oral immunotherapy.** *Nature communications*  
Kaushik, A., Dunham, D., Han, X., Do, E., Andorf, S., Gupta, S., Fernandes, A., Kost, L. E., Sindher, S. B., Yu, W., Tsai, M., Tibshirani, R., Boyd, et al  
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- **An optimized protocol for phenotyping human granulocytes by mass cytometry.** *STAR protocols*  
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2022; 3 (2): 101280
- **Dynamin Related Protein 1 Differentially Regulates FcepsilonRI- and SP-induced Mast Cell Activation.** *The Journal of allergy and clinical immunology*  
Wang, Y., Yu, M., Matsushita, K., Liu, C., Ishihara, N., Nomura, M., Tsai, M., Galli, S. J.  
2022
- **KIT as a master regulator of the mast cell lineage.** *The Journal of allergy and clinical immunology*  
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- **Assessment of Allergic and Anaphylactic Reactions to mRNA COVID-19 Vaccines With Confirmatory Testing in a US Regional Health System.** *JAMA network open*  
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2021; 4 (9): e2125524
- **The role of Sp140 revealed in IgE and mast cell responses in Collaborative Cross mice.** *JCI insight*  
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- **IgE antibodies increase honeybee venom responsiveness and detoxification efficiency of mast cells.** *Allergy*  
Starkl, P., Gaudenzio, N., Marichal, T., Reber, L. L., Sibilano, R., Watzenboeck, M. L., Fontaine, F., Mueller, A. C., Tsai, M., Knapp, S., Galli, S. J.  
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- **Basophil activation tests identify a peanut OIT subgroup with improved safety and outcomes**  
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- **Transcriptome programming of IL-3-dependent bone marrow-derived cultured mast cells by stem cell factor (SCF).** *Allergy*  
Wang, Y. n., Matsushita, K. n., Jackson, J. n., Numata, T. n., Zhang, Y. n., Zhou, G. n., Tsai, M. n., Galli, S. J.  
2021
- **E-cadherin is regulated by GATA-2 and marks the early commitment of mouse hematopoietic progenitors to the basophil and mast cell fates.** *Science immunology*  
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- **Mast cells and IgE in defense against lethality of venoms: Possible "benefit" of allergy[].** *Allergo journal international*  
Galli, S. J., Metz, M., Starkl, P., Marichal, T., Tsai, M.  
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- **Dose-related Allergic Reactions Decrease Over Time During Peanut Oral Immunotherapy in a Large, Randomized, Double-blind, Placebo-controlled, Phase 2 Study**  
Long, A., Purington, N., Andorf, S., O'Laughlin, K., Lyu, S., Sindher, S., Manohar, M., Boyd, S., Tibshirani, R., Maecker, H., Mukai, K., Tsai, M., Desai, et al  
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- **Sustained outcomes in oral immunotherapy for peanut allergy (POISED study): a large, randomised, double-blind, placebo-controlled, phase 2 study**  
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- **Legends of Allergy: Stephen J. Galli ALLERGY**  
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- **Microfluidic methods for precision diagnostics in food allergy.** *Biomicrofluidics*  
Castaño, N. n., Cordts, S. C., Nadeau, K. C., Tsai, M. n., Galli, S. J., Tang, S. K.  
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- **Gastrointestinal Eosinophil Responses in a Longitudinal, Randomized Trial of Peanut Oral Immunotherapy.** *Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association*  
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- **Mast Cells in Inflammation and Disease: Recent Progress and Ongoing Concerns.** *Annual review of immunology*  
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- **Oral Immunotherapy and Basophil and Mast Cell Reactivity in Food Allergy.** *Frontiers in immunology*  
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- **Epithelial RABGEF1 deficiency promotes intestinal inflammation by dysregulating intrinsic MYD88-dependent innate signaling.** *Mucosal immunology*  
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- **IgE-mediated mast cell activation promotes inflammation and cartilage destruction in osteoarthritis** *ELIFE*  
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- **Basophil-derived tumor necrosis factor can enhance survival in a sepsis model in mice.** *Nature immunology*  
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- **Sustained outcomes in oral immunotherapy for peanut allergy (POISED study): a large, randomised, double-blind, placebo-controlled, phase 2 study.** *Lancet (London, England)*  
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● **IgE-mediated mast cell activation promotes inflammation and cartilage destruction in osteoarthritis.** *eLife*

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● **Thirdhand smoke component can exacerbate a mouse asthma model through mast cells** *JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY*

Yu, M., Mukai, K., Tsai, M., Galli, S. J.  
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● **Isotype-specific agglutination-PCR (ISAP): A sensitive and multiplex method for measuring allergen-specific IgE.** *The Journal of allergy and clinical immunology*

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Mukai, K., Tsai, M., Saito, H., Galli, S. J.  
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● **Targeting of Immune Cells by Dual TLR2/7 Ligands Suppresses Features of Allergic Th2 Immune Responses in Mice.** *Journal of immunology research*

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● **Imaging protective mast cells in living mice during severe contact hypersensitivity.** *JCI insight*

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- **Pathways of immediate hypothermia and leukocyte infiltration in an adjuvant-free mouse model of anaphylaxis** *JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY*  
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  - **A TNFRSF14-Fc epsilon RI-mast cell pathway contributes to development of multiple features of asthma pathology in mice** *NATURE COMMUNICATIONS*  
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  - **IgE antibodies, Fc epsilon RI alpha, and IgE-mediated local anaphylaxis can limit snake venom toxicity** *JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY*  
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- **Mast cell anaphylatoxin receptor expression can enhance IgE-dependent skin inflammation in mice** *JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY*  
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