Gerstner Sloan Kettering
Graduate School of Biomedical Sciences

CANCER BIOLOGY & GENETICS PROGRAM

The Craig Thompson Lab

Research

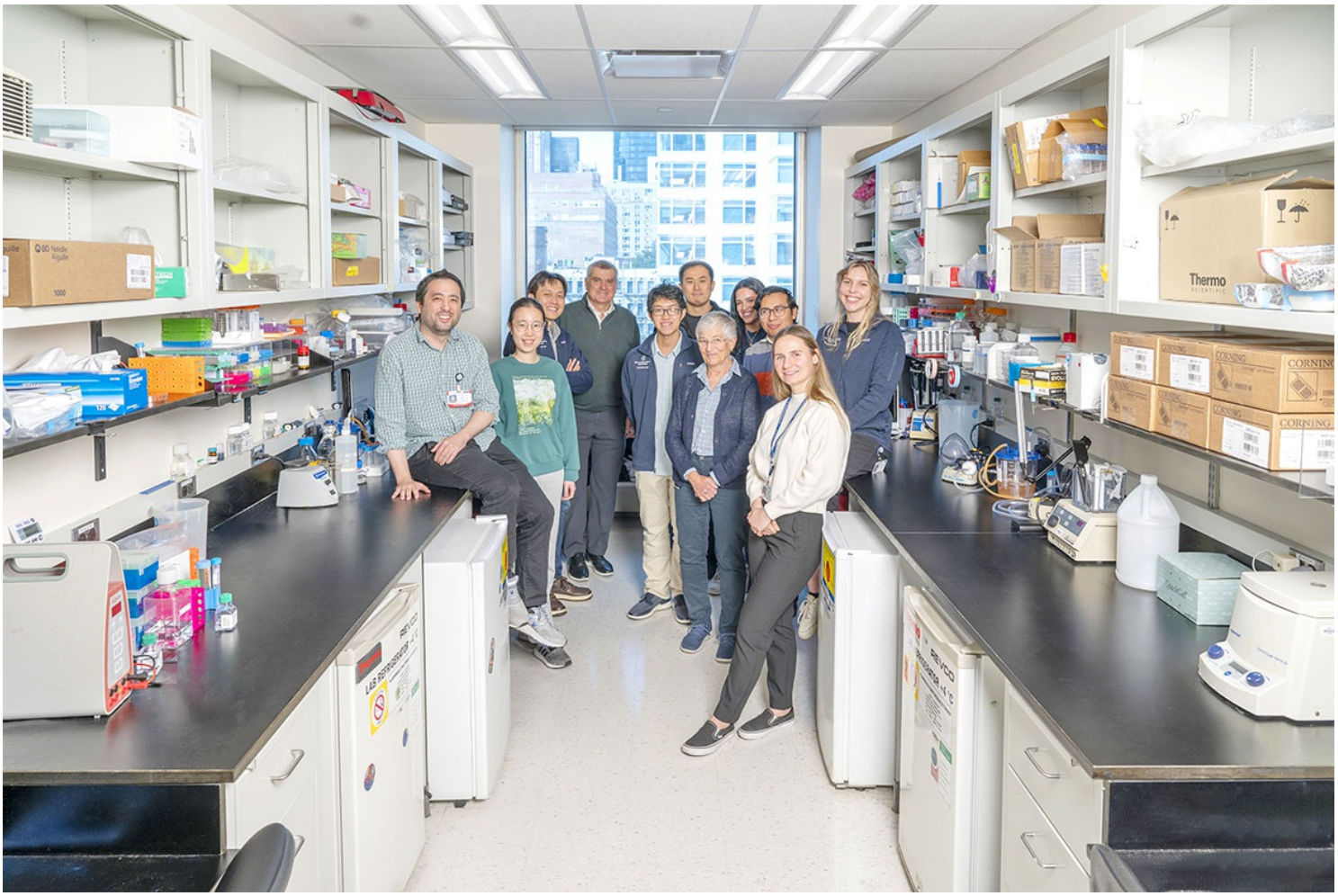
Craig B. Thompson, MD

Professor

The Thompson laboratory has proposed that the basis of metazoan cell survival is determined by the inability of cells to take up nutrients in a cell-autonomous fashion. This hypothesis was formulated to explain how multicellularity might have arisen during evolution. We believe the lack of a cell-intrinsic mechanism to regulate nutrient uptake provides the first and most fundamental barrier to cell

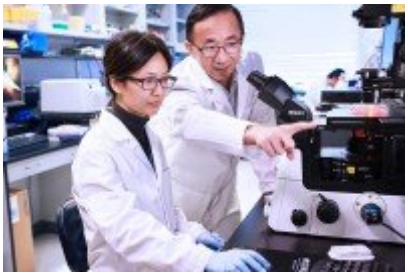
transformation.

View Lab Overview →



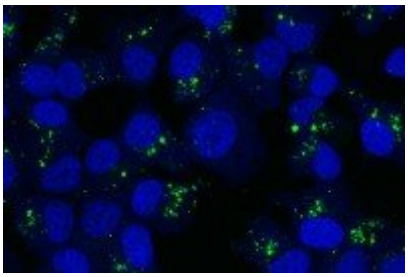
Featured News

IN THE LAB



More Evidence that Cellular ‘Death by Iron’ Could Be Promising Avenue of Cancer Treatment

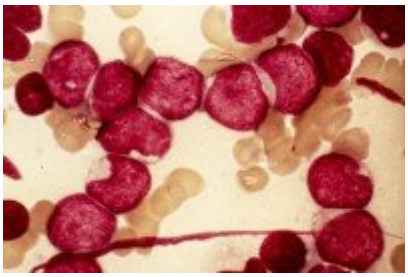
Cancers with certain mutations are vulnerable to ferroptosis, a form of iron-dependent cell death.



Research Published in Genes and Development from Craig Thompson Lab

New research from the Craig Thompson Lab offers a closer look at the transcriptional activators, Yap/Taz, and the role they play in cell growth and macropinocytosis.

FINDING



Findings from Two Patients Shed New Light on Drug Resistance in AML

A team at MSK has discovered a previously unknown type of resistance to a new leukemia drug.

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Publications

King, B., Araki, J., Palm, W., & Thompson, C. B. (2020). Yap/Taz promote the scavenging of extracellular nutrients through macropinocytosis. *Genes & development*, 10.1101/gad.340661.120. Advance online publication.

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Schwörer, S., Berisa, M., Violante, S., Qin, W., Zhu, J., Hendrickson, R. C., Cross, J. R., & Thompson, C. B. (2020). Proline biosynthesis is a vent for TGFβ-induced mitochondrial redox stress. *The EMBO journal*, *39*(8), e103334.

Li, A. M., Ducker, G. S., Li, Y., Seoane, J. A., Xiao, Y., Melemenidis, S., Zhou, Y., Liu, L., Vanharanta, S., Graves, E. E., Rankin, E. B., Curtis, C., Massagué, J., Rabinowitz, J. D., Thompson, C. B., & Ye, J. (2020). Metabolic Profiling Reveals a Dependency of Human Metastatic Breast Cancer on Mitochondrial Serine and One-Carbon Unit Metabolism. *Molecular cancer research : MCR*, *18*(4), 599–611.

Zhu, J., Berisa, M., Schwörer, S., Qin, W., Cross, J. R., & Thompson, C. B. (2019). Transsulfuration Activity Can Support Cell Growth upon Extracellular Cysteine Limitation. *Cell metabolism*, *30*(5), 865–876.e5.

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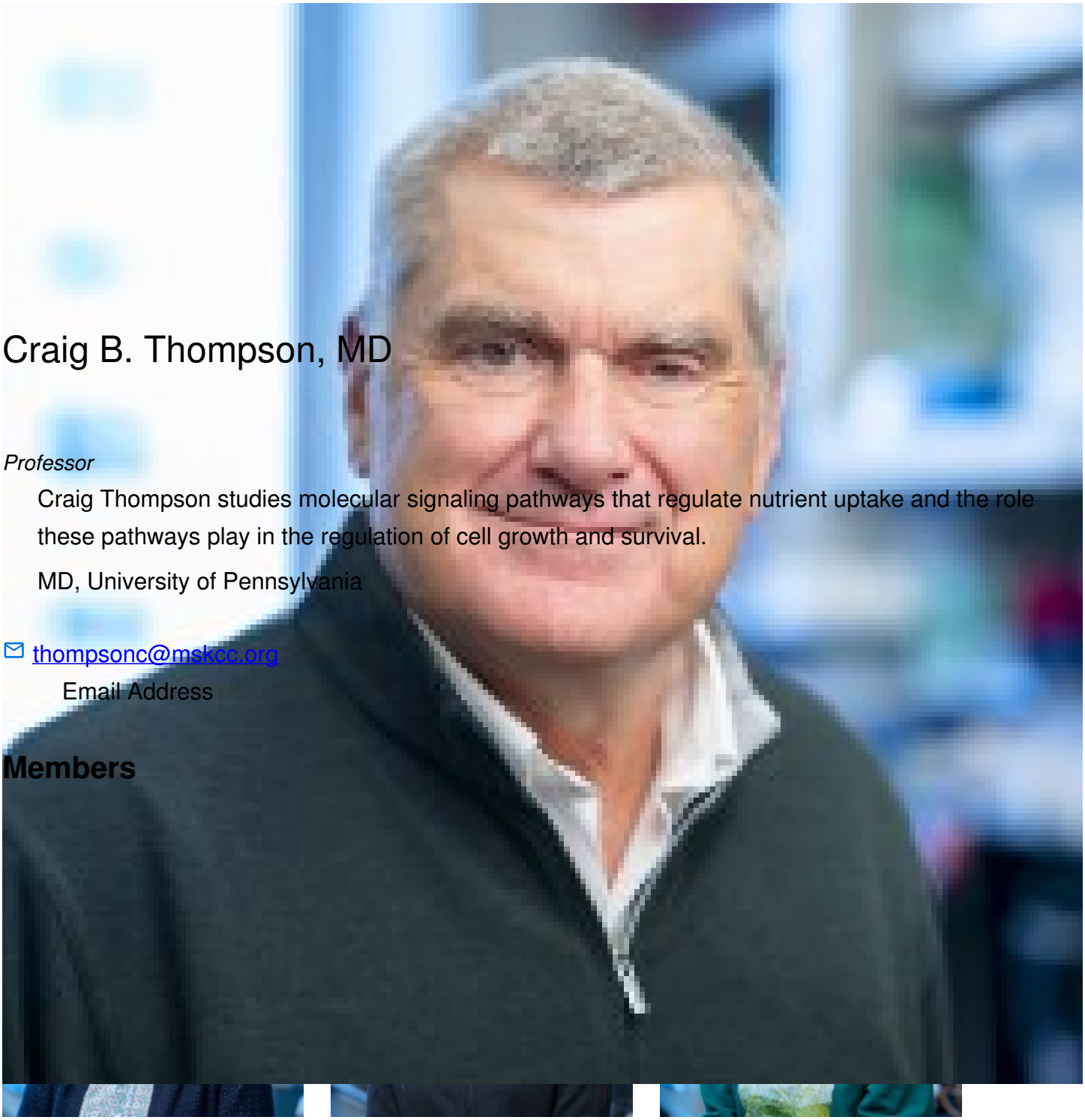
People



Craig B. Thompson, MD

Professor

Craig Thompson studies molecular signaling pathways that regulate nutrient uptake and the role these pathways play in the regulation of cell growth and survival.

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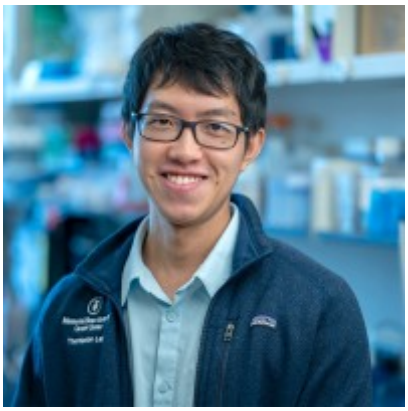

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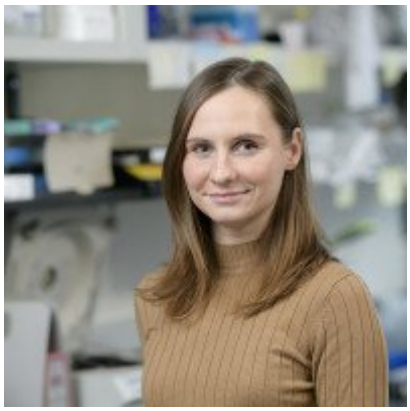

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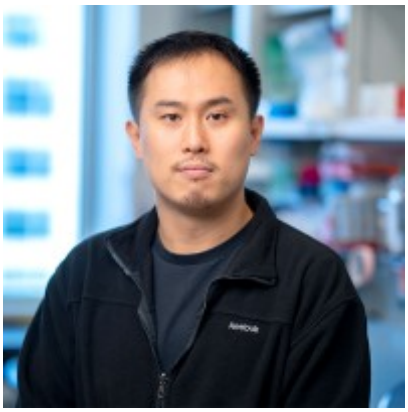

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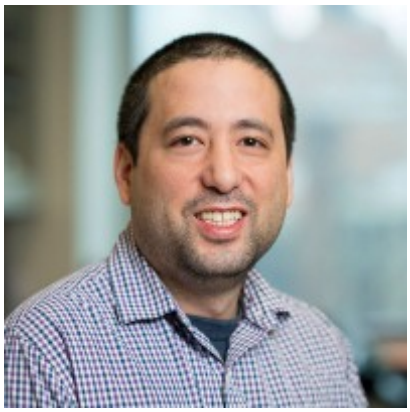

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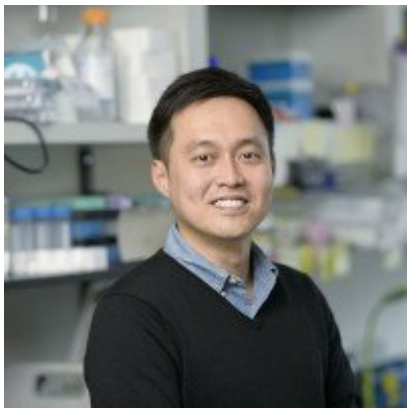

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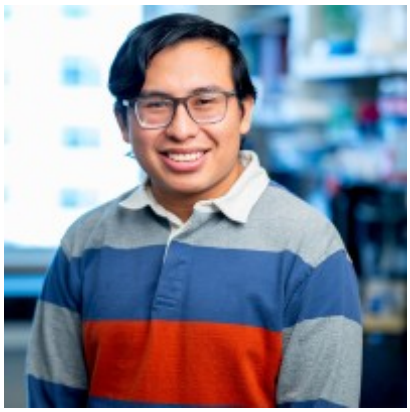

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Disclosures

Doctors and faculty members often work with pharmaceutical, device, biotechnology, and life sciences companies, and other organizations outside of MSK, to find safe and effective cancer treatments, to improve patient care, and to educate the health care community.

MSK requires doctors and faculty members to report (“disclose”) the relationships and financial interests they have with external entities. As a commitment to transparency with our community, we make that information available to the public.

Craig B. Thompson discloses the following relationships and financial interests:

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Albert and Mary Lasker Foundation
Professional Services and Activities

Charles River Laboratories
Equity; Fiduciary Role / Position

Economic Club of New York
Fiduciary Role / Position

Elsevier

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