

12-15-2023

Treating Chemotherapy-Induced Nausea: Developing a peptide antagonist to prevent chemotherapy-induced nausea

Lucy Olcott
Syracuse University

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Recommended Citation

Olcott, Lucy (2023) "Treating Chemotherapy-Induced Nausea: Developing a peptide antagonist to prevent chemotherapy-induced nausea," *The Crown: Syracuse Undergraduate Research Journal*: Vol. 1, Article 22. Available at: <https://surface.syr.edu/thecrown/vol1/iss1/22>

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Treating Chemotherapy-Induced Nausea

Developing a peptide antagonist to prevent chemotherapy-induced nausea

Lucy Olcott
chemistry, 2025

Executive Summary

Cancer patients undergoing chemotherapy with a poor prognosis, who are also experiencing high levels of discomfort, cannot afford to lose weight due to nausea and vomiting. Chemotherapy induced nausea is controlled by a pathway in the brain. This pathway is a target for pharmaceutical companies in the hope of providing relief to cancer patients, especially those who are at increasing risk of physical wasting.

The Doyle lab has worked to develop a novel peptide treatment, GRASP, to target the specific region in the hindbrain that controls chemotherapy-induced nausea. This peptide has been continuously tested to create a leading treatment with the goal of creating a more comfortable life as well as a better prognosis for patients undergoing extensive chemotherapy. This research has been presented at the Syracuse University Office of Undergraduate Research and Creative Engagement (SOURCE) Symposium (Summer 2023). To access the poster please scan the QR code.

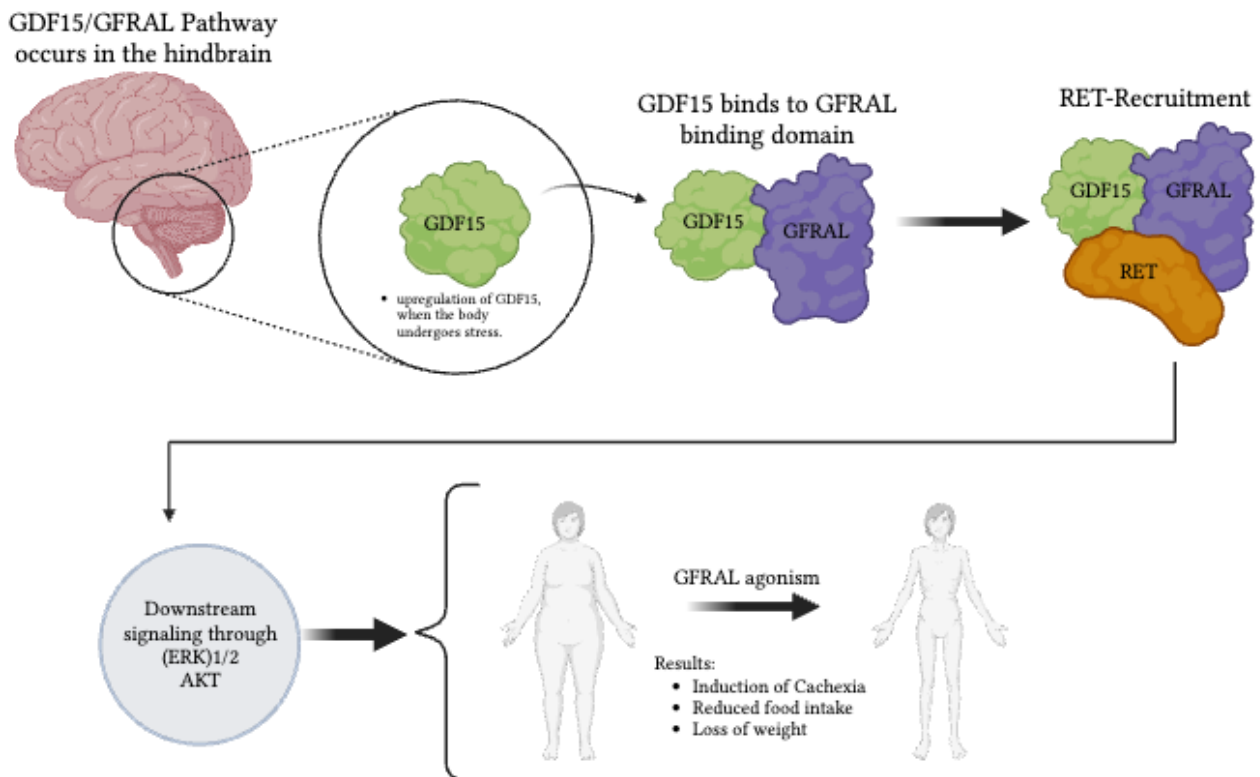
Bibliography

Tito Borner, Ian C. Tinsley, Brandon T. Milliken, Sarah A. Doebley, Nicholas R. Najjar, Deborah J. Kerwood, Bart C. De Jonghe, Matthew R. Hayes, and Robert P. Doyle. *Journal of Medicinal Chemistry* 2023 66 (16), 11237-11249. DOI: 10.1021/acs.jmedchem.3c00667



Appendix

Figure I: GDF15/GFRAL pathway (image made with BioRender)



Created in **BioRender.com** **bio**

Creation of a Peptide Antagonist of the GFRAL–RET Receptor Complex for the Treatment of GDF15-Induced Malaise.