

Hypothesis: Proteolytic Proenzymes Have a Role in the Ornish Program for Prostate Cancer

Integrative Cancer Therapies
Volume 23: 1
© The Author(s) 2024
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/15347354241268230
journals.sagepub.com/home/ict



Linda L. Isaacs, MD¹

Submitted April 17, 2024; revised June 21, 2024; accepted July 11, 2024

Ornish et al¹ address cardiovascular disease with a method they summarize as “Eat Better, Love More, Stress Less and Move More.” The Ornish diet is a low-fat vegetarian diet that eliminates meat, poultry, and fish. While the Ornish Lifestyle Medicine Program is best known for the treatment of heart disease, this approach has been tried in other medical conditions. In patients with early-stage prostate cancer being managed by “watchful waiting,” prostate specific antigen (PSA) fell and disease stabilized in prostate cancer patients on the Ornish approach, compared to controls.¹ In addition:

The growth of LNCaP prostate cancer cells (American Type Culture Collection, Manassas, Virginia) was inhibited almost 8 times more by serum from the experimental than from the control group (70% vs 9%, $p < 0.001$). Changes in serum PSA and also in LNCaP cell growth were significantly associated with the degree of change in diet and lifestyle.¹

The authors did not identify the component in the serum that inhibited prostate cancer cells. Trypsinogen or chymotrypsinogen might be this component. For more than a century, some researchers and clinicians have believed that pancreatic proteolytic enzymes have an anticancer effect. Most recently, Hernandez-Camarero et al² showed that a mixture of chymotrypsinogen and trypsinogen had promising effects both on cancer cells in vitro and in mouse models.

Trypsinogen is present in serum, as are trypsin and chymotrypsinogen. Two aspects of the Ornish program might raise serum proenzymes. First, a diet with little to no animal protein would require fewer proteases for digestion of food, potentially freeing up proenzymes for systemic use. Second, the stress reduction techniques used should decrease sympathetic nervous system tone. Since the sympathetic nervous system suppresses the pancreas, stress reduction could increase pancreatic manufacture and release of proteolytic enzymes and their precursors.³

To test this theory, investigators could measure serum proenzymes before and after the implementation of the Ornish program. Ideally, the effect of the serum on

prostate cancer cells in vitro would also be verified. Positive results would give support to the use of dietary modifications and of pancreatic proteolytic proenzymes to address cancer.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

Consent Statement/Ethical Approval

Not required.

ORCID iD

Linda L. Isaacs <https://orcid.org/0000-0002-4310-8041>

References

1. Ornish D, Weidner G, Fair WR, et al. Intensive lifestyle changes may affect the progression of prostate cancer. *J Urol.* 2005;174(3):1065-1069. doi:10.1097/01.ju.0000169487.49018.73
2. Hernandez-Camarero P, Lopez-Ruiz E, Grinan-Lison C, et al. Pancreatic (pro)enzymes treatment suppresses BXPC-3 pancreatic cancer stem cell subpopulation and impairs tumour engrafting. *Sci Rep.* 2019;9(1):11359. doi:10.1038/s41598-019-47837-7
3. Love JA, Yi E, Smith TG. Autonomic pathways regulating pancreatic exocrine secretion. *Auton Neurosci.* 2007;133(1):19-34. doi:10.1016/j.autneu.2006.10.001

¹Private Practice, Austin, TX, USA

Corresponding Author:

Linda L. Isaacs, 2500 West William Cannon Drive, Suite 603, Austin, TX 78745, USA.

Email: lindaaisacsmd@hushmail.com

