The New Epigenetic Diet Can Overcome Ovarian Cancer Chemoresistance

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The Nobel Assembly at Karolinska Institutet has today decided to award

The Nobel Prize in Physiology or Medicine 2009

jointly to

Elizabeth H. Blackburn, Carol W. Greider and Jack W. Szostak

for the discovery of

“how chromosomes are protected by telomeres and the enzyme telomerase”

Epigenetics—Time Magazine.
Epigenetic Modifications of the Genome

Environmentally-sensitive heritable and reversible gene regulation without changes in the primary DNA sequence.
Telomerase activity is proposed to be regulated through epigenetic control of the \textit{hTERT} gene.
Epigenetic-modulating Dietary Compounds

The findings were published in the journal Clinical Epigenetics. The research led the UAB team to coin the term "epigenetic diet," which includes foods known to inhibit those pesky gene aberrations. In addition to broccoli, Brussels sprouts, cabbage and soy beans, the diet includes:

- cauliflower
- kale
- fava beans
- grapes
- green tea
- turmeric

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Green Eggs & Ham? No – Green Tea & Fava Beans!

Vegetables in the fight cancer

Biologist Cancer-I

On March 11, 2011
EGCG Can Enhance SFN-mediated Apoptosis in Paclitaxel-resistant Ovarian Cancer Cells

- Apoptosis: An important mechanism for chemotherapeutic drugs to target cancer cells.

EGCG and SFN Treatment Can Decrease hTERT Expression in Ovarian Cancer Cells

Paclitaxel-sensitive: SKOV3-ip1

Paclitaxel-resistant: SKOV3TR-ip2

EGCG and SFN Treatment Decreases DNMT1 Expression in Ovarian Cancer Cells

SFN-mediated down-regulation of hTERT expression in breast cancer cells is through down-regulation of DNMT1.

Accomplishments/Funding Plans

Papers Published:
Chen, H., Landen, C.N., Li, Y., Alvarez, R.D., and Tollefsbol, T.O.

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Funding Plans:
NIH PA-10-035 (Prioritizing Molecular Targets for Cancer Prevention with Nutritional Combinations)

DOD “Ovarian Cancer Synergistic Translational Leverage Award”