

Lunasin and Nutritional Epigenetics vs. Conventional Cancer Drugs

"No other company is advancing the field of epigenetics like Reliv. We are in the middle of a revolution in nutrition, and we are all witnesses." **Dr. Alfredo Galvez, the Center of Excellence in Nutritional Genomics at University of California - Davis.**

Dr. Galvez is working on the development of functional foods and nutraceutical ingredients based on the lunasin peptide, a soy protein component he serendipitously discovered in 1996 as a postdoctoral researcher at UC Berkeley.

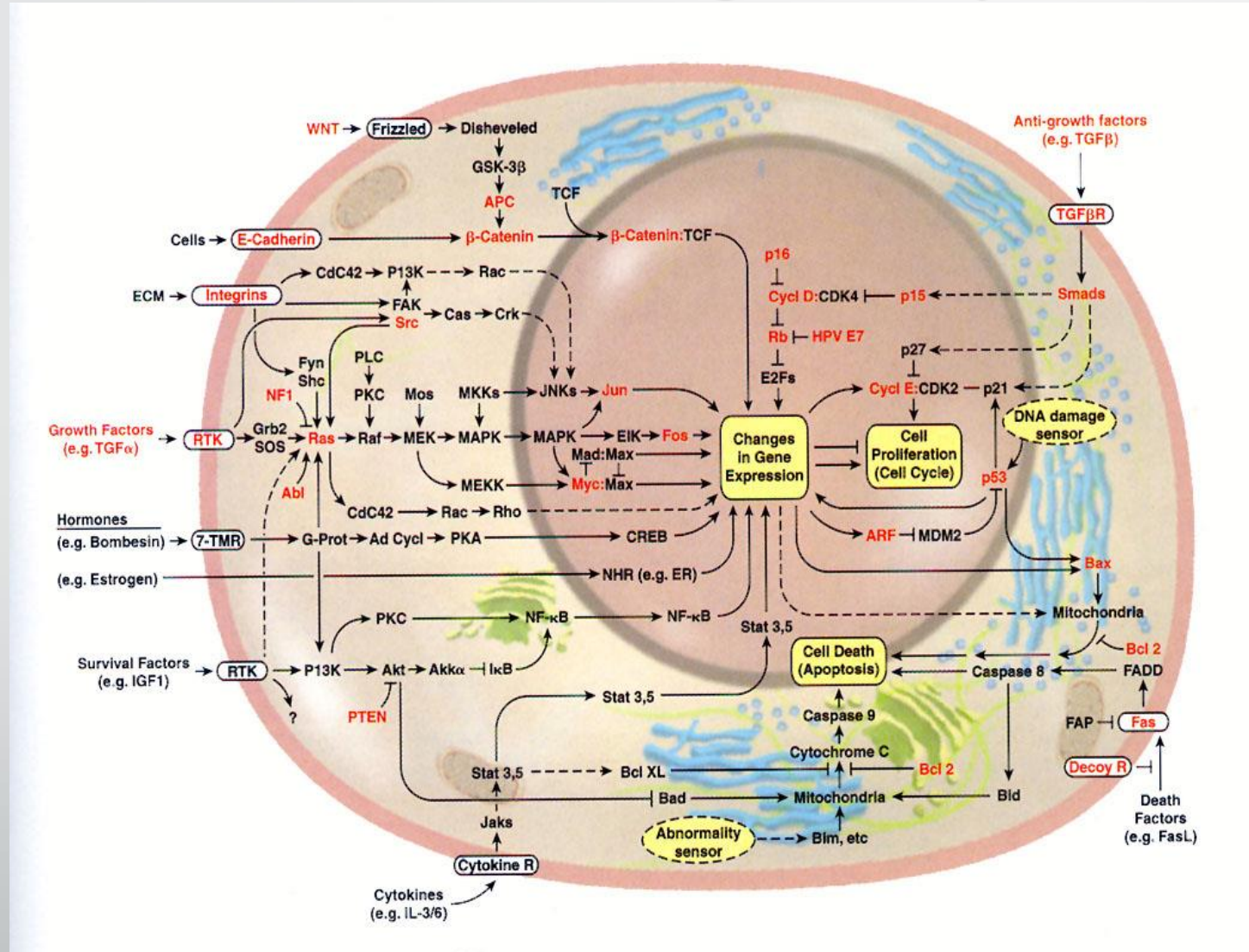
What makes lunasin different from cancer drugs?

“Cancer drugs, like tamoxifen for example, target a specific gene (ER-estrogen receptor) and a specific physiological pathway (estrogen receptor pathway) in stopping cancer development. Lunasin, as a low potency dietary ingredient, has been shown in a number of publications to affect multiple genes in multiple pathways, albeit in incremental fashion, to help prevent cancer development.” Dr. Galvez

View how lunasin affects multiple genes in multiple pathways

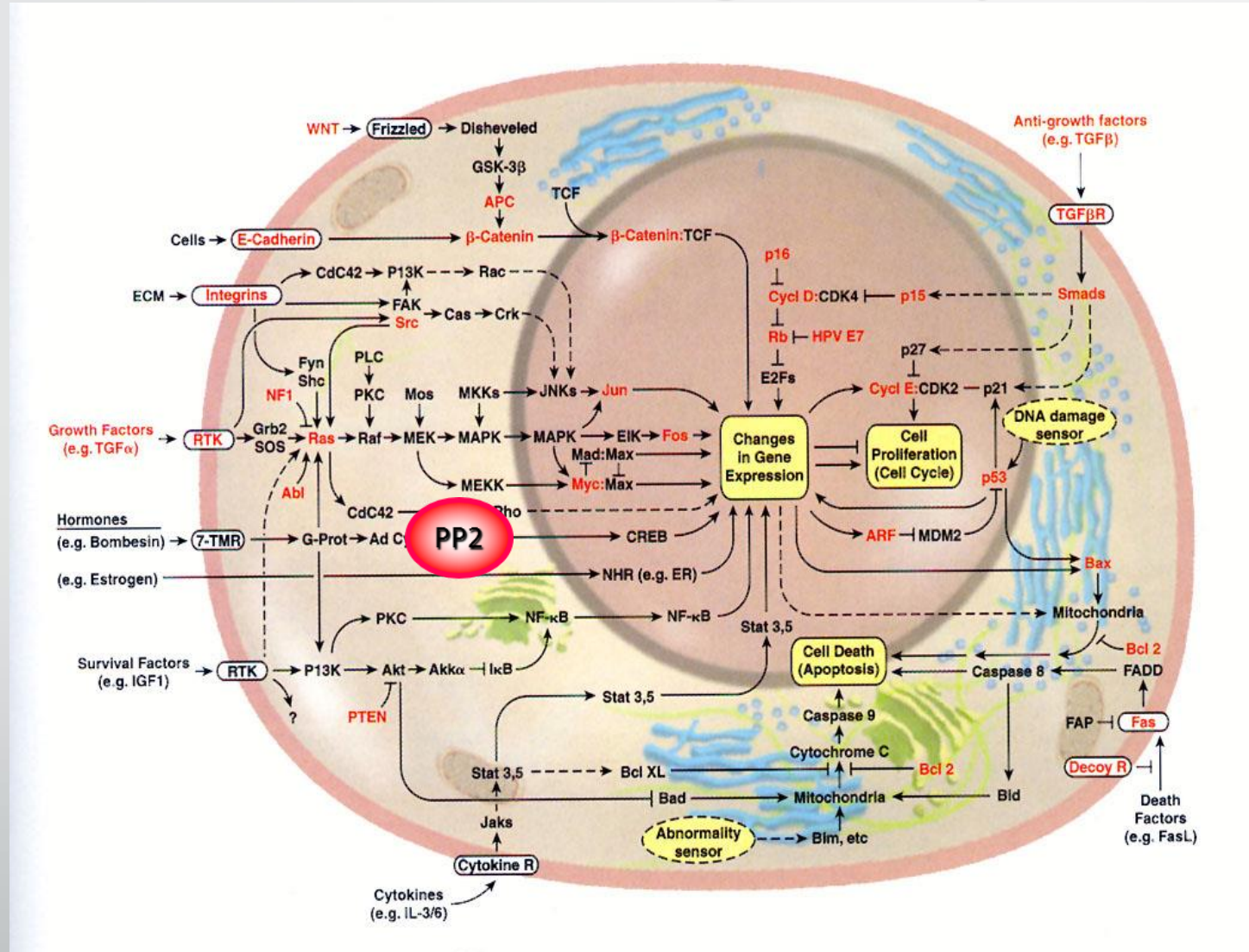


Conventional Drug Development



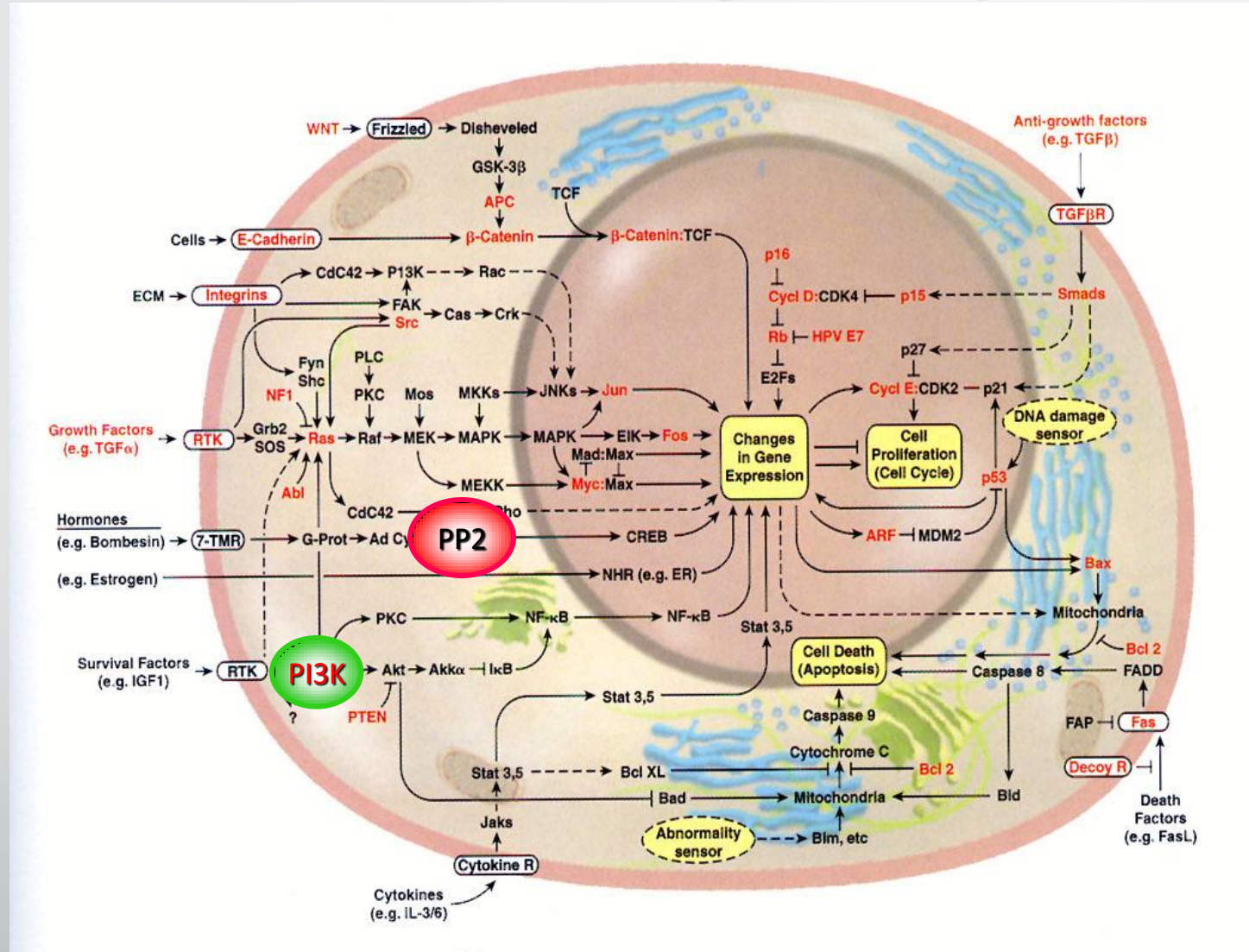
From Hanahan and Weinberg, 2000 Cell 100:50-57

Conventional Drug Development



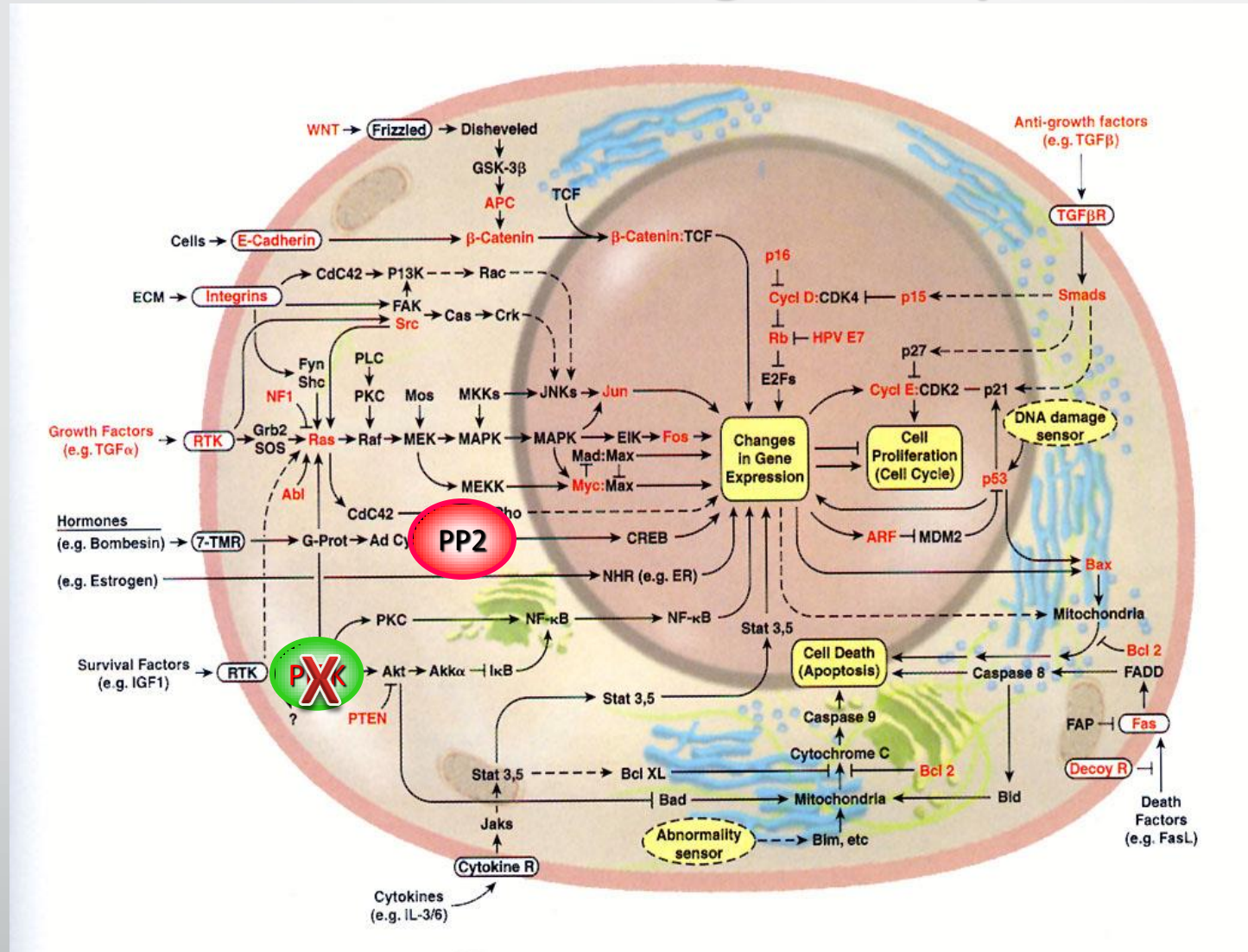
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Conventional Drug Development



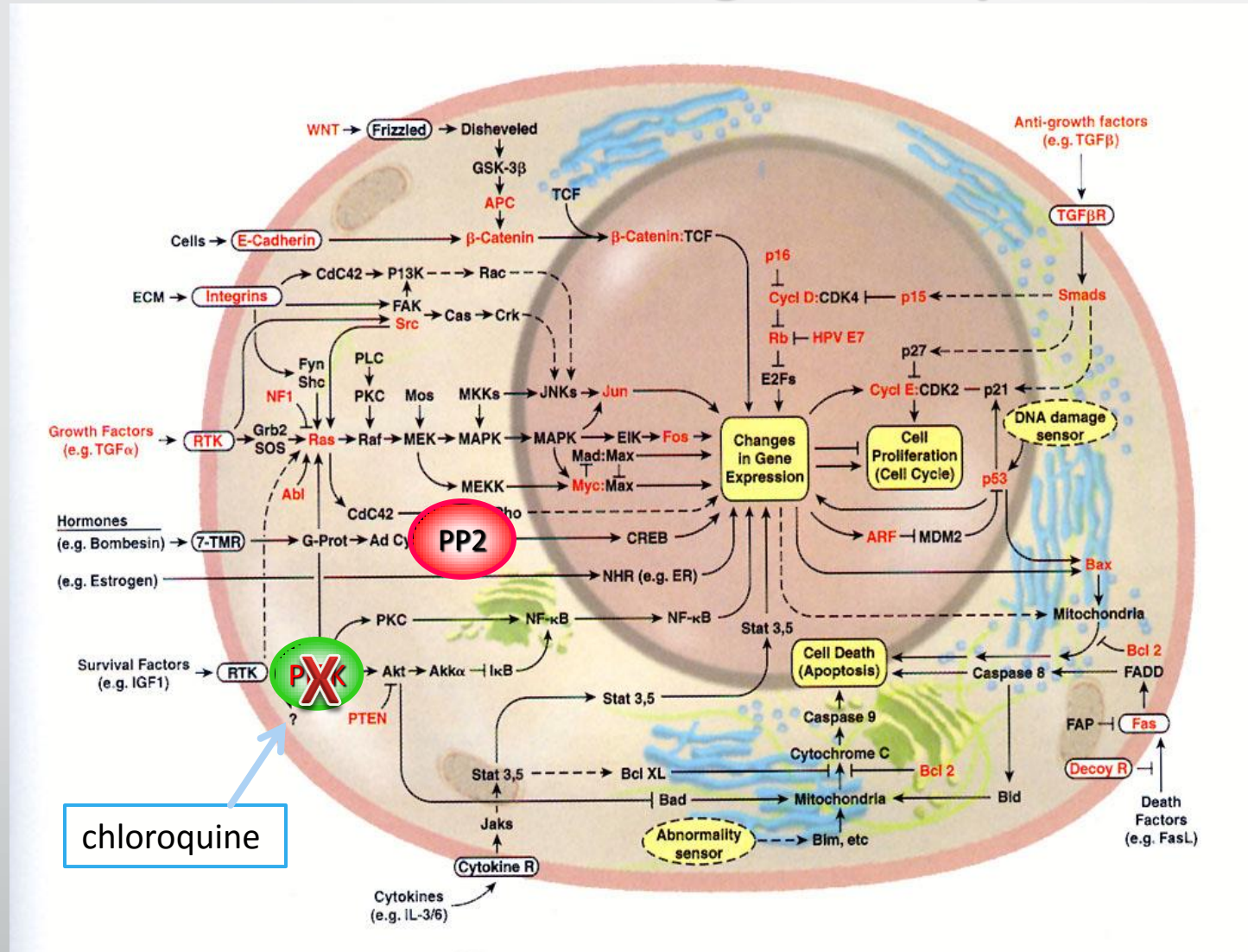
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Conventional Drug Development



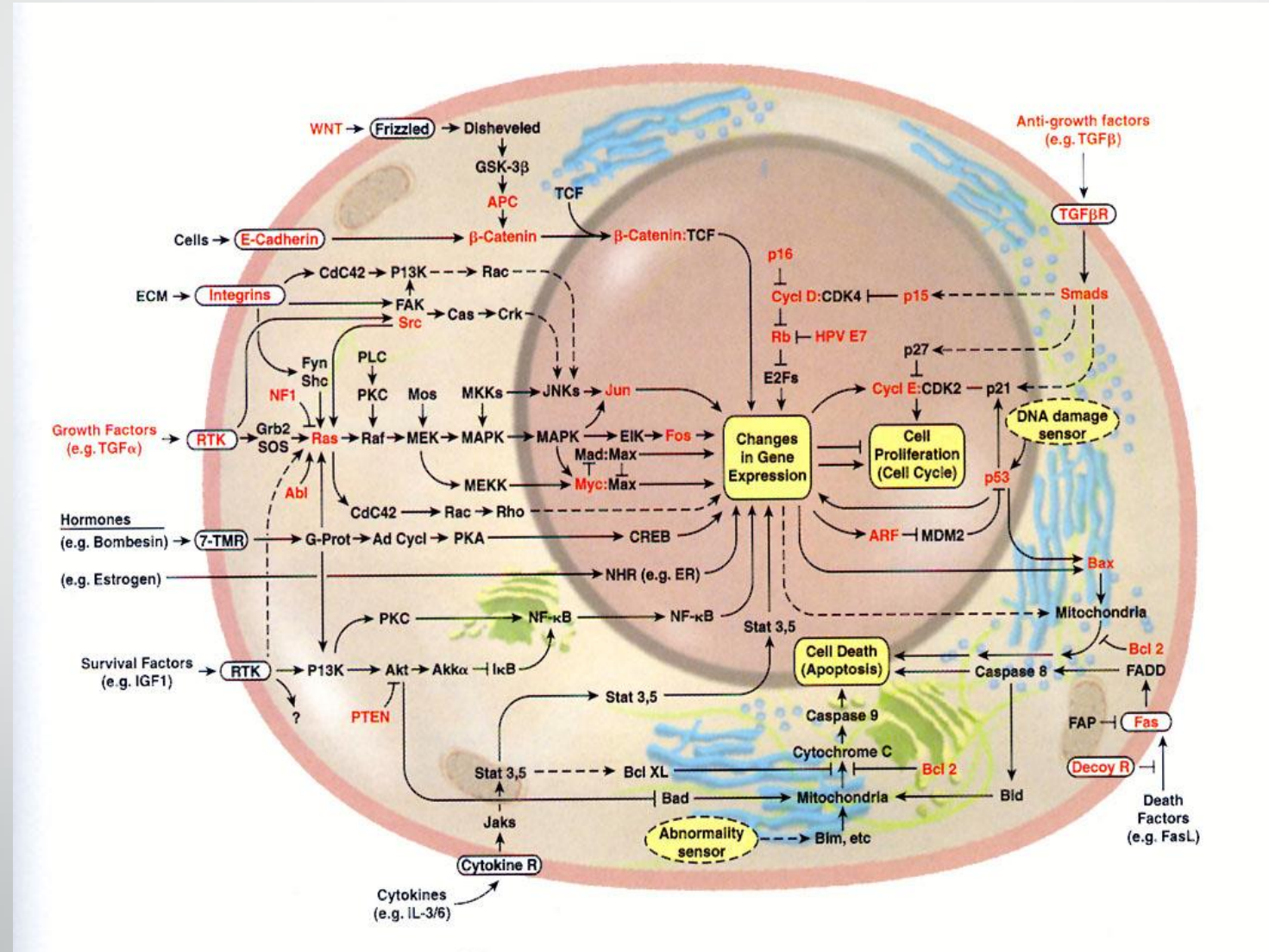
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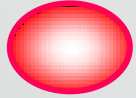


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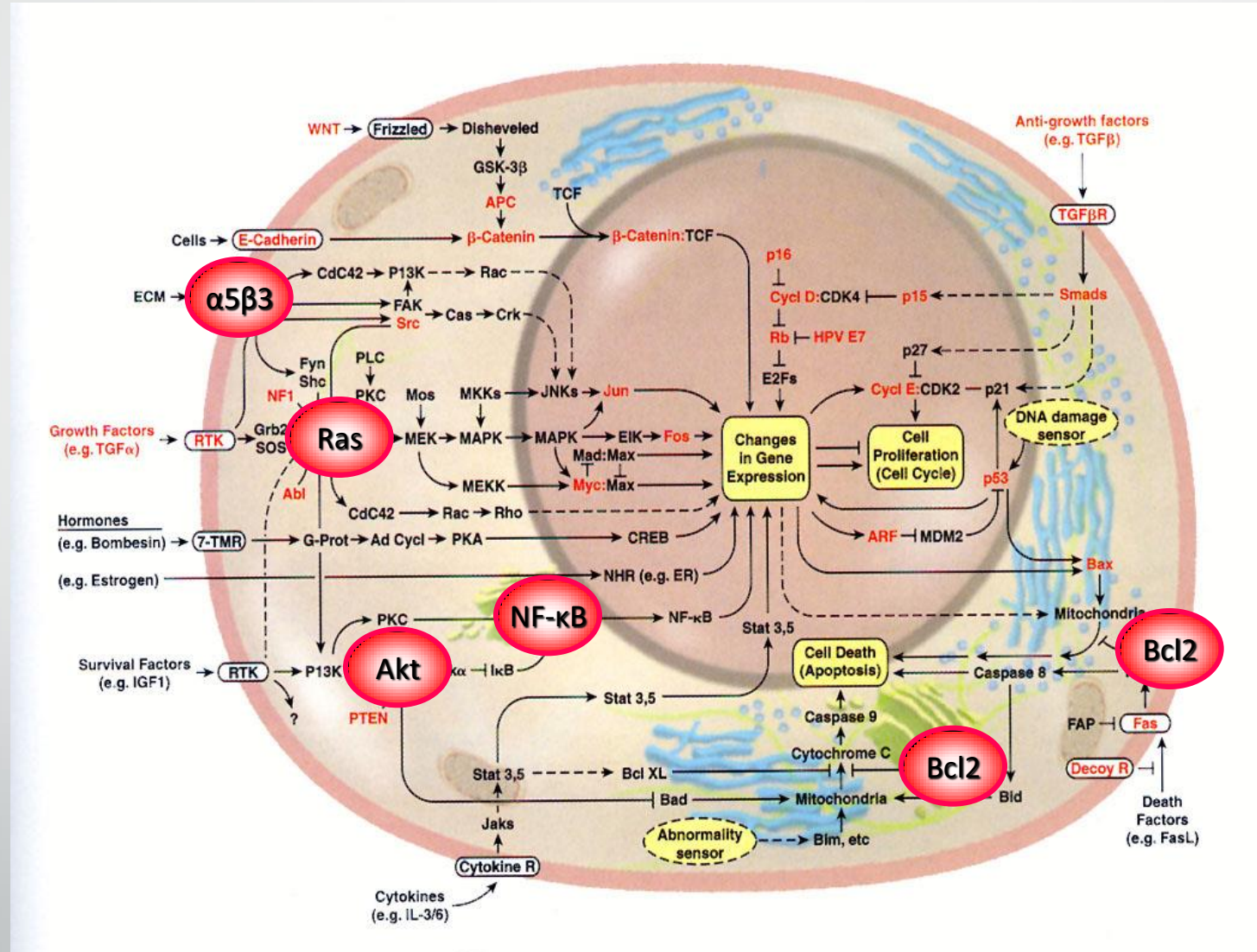
Lunasin as a dietary ingredient prevents disease formation by affecting multiple pathways



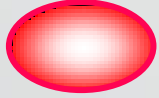
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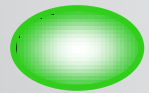
Lunasin inhibits oncogene and carcinogen-induced cell transformation.



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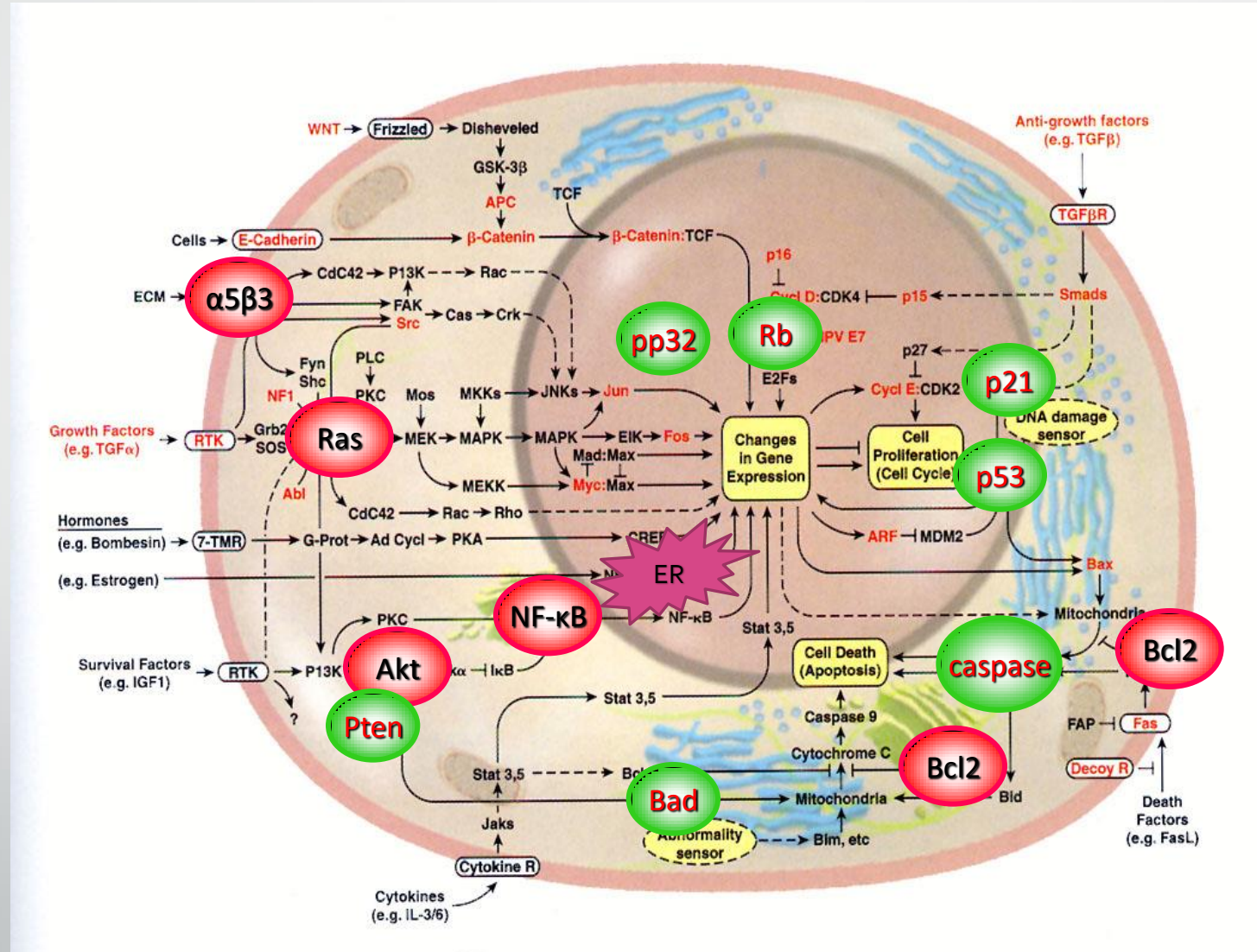
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Lunasin increases expression of genes associated with tumor suppression, apoptosis, mitotic control and DNA repair.



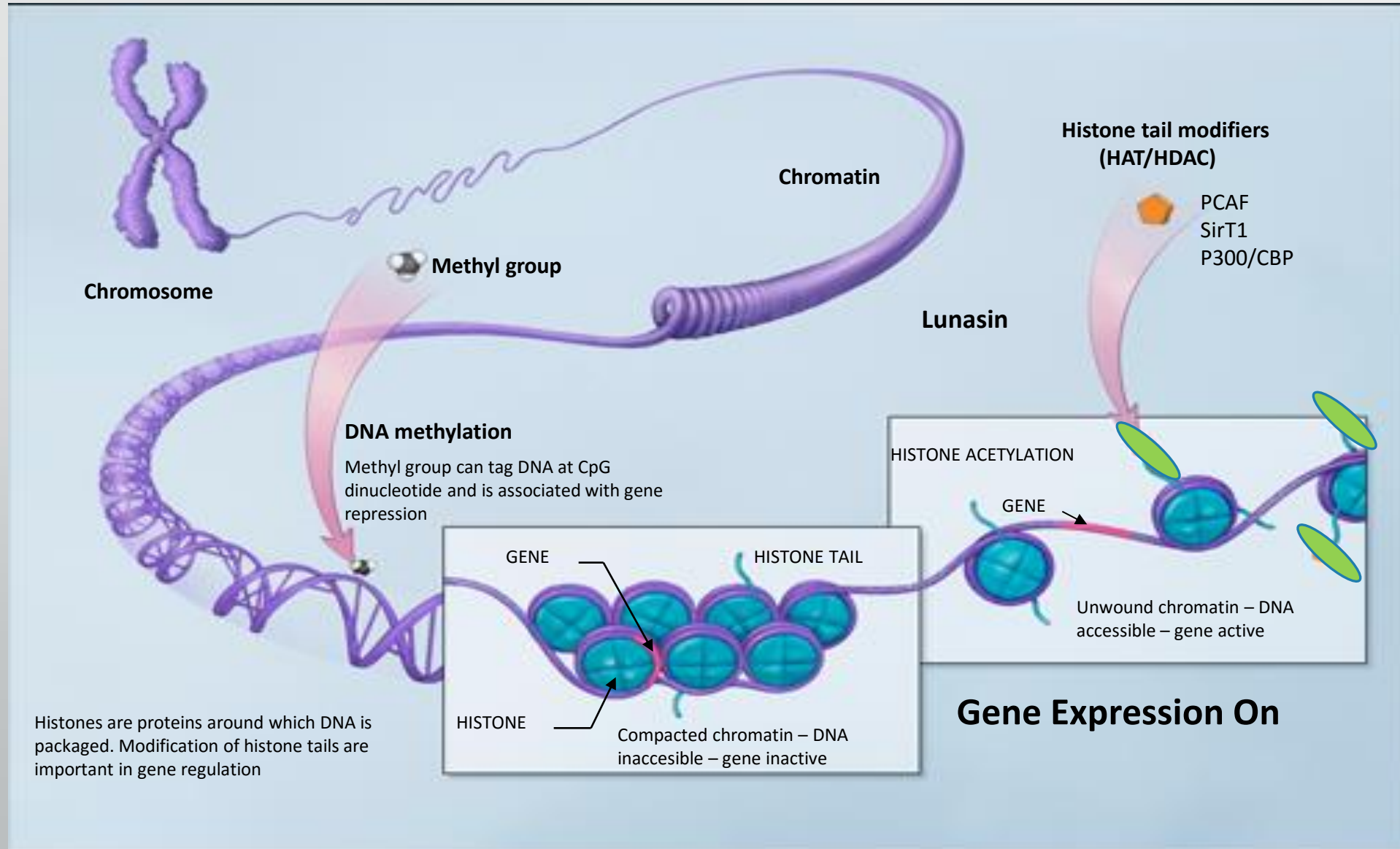
Tamoxifen chemopreventive drug inhibits estrogen receptor (ER)



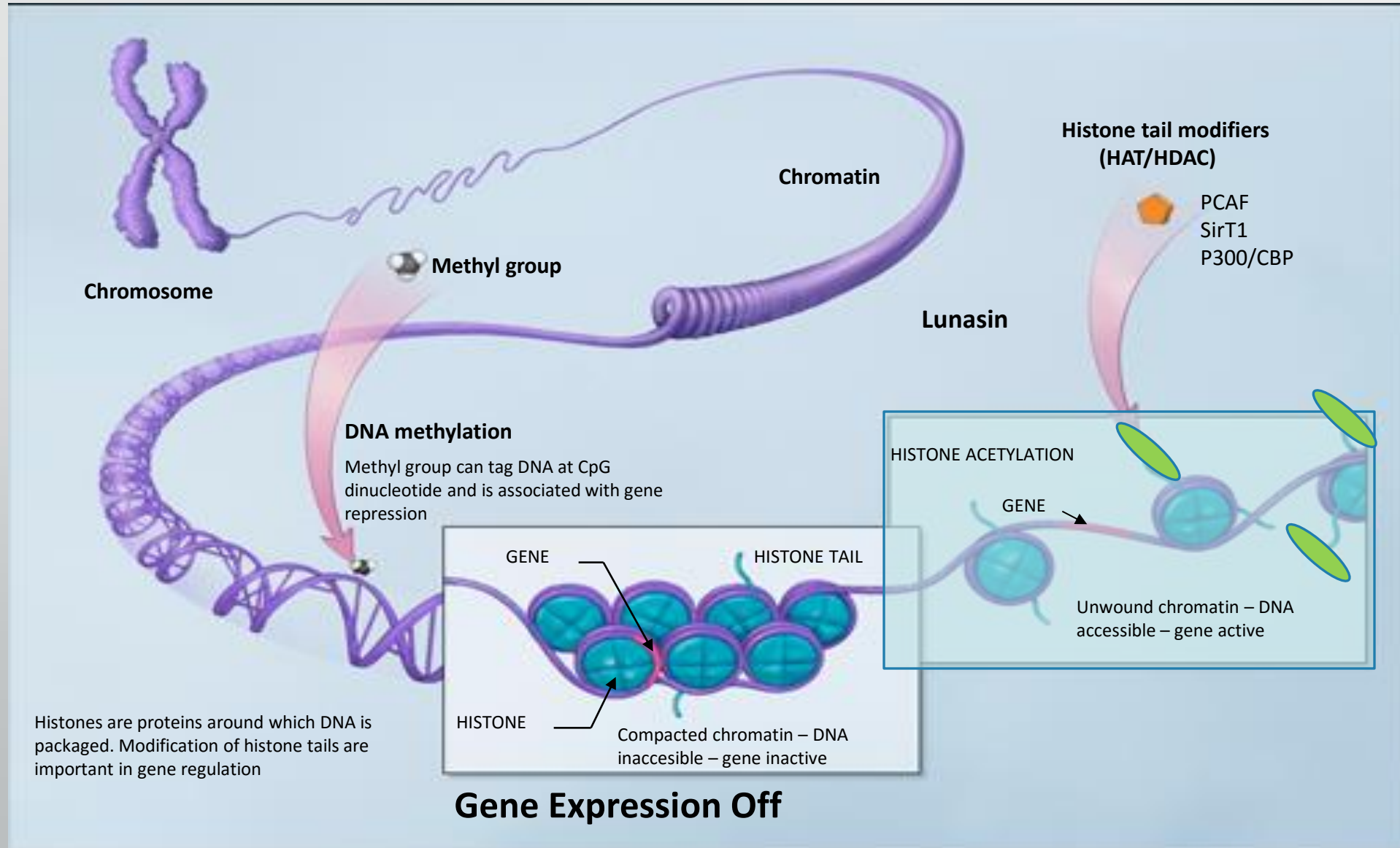
Anti-cancer Properties of Lunasin (published and current research)

- 1) Prevents cancer formation induced by chemical carcinogens
- 2) Prevents cancer formation induced by viral oncogenes
- 3) Prevents cancer formation caused by inactivation of tumor suppressors.
- 4) Inhibits inflammation
- 5) Improves innate immunity or ability to fight infections
- 6) Enhances anti-oxidant effects in cells
- 7) Prevents metastasis of colon cancer cells to the liver
- 8) Has functional and structural similarity to a human tumor suppressor
- 9) Increases expression of liver enzyme that detoxifies carcinogen that can cause prostate cancer

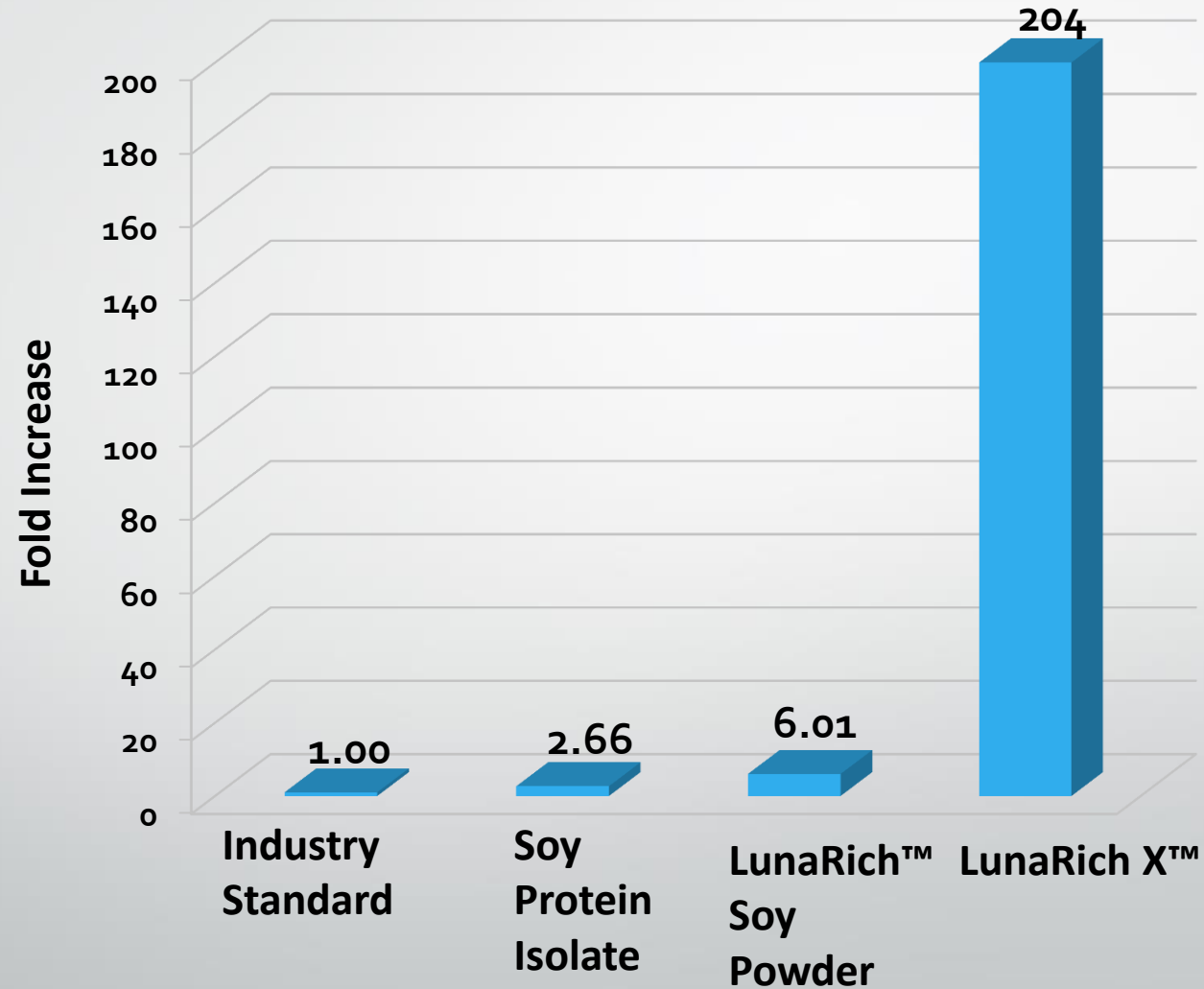
Lunasin's epigenetic mechanism of action



Lunasin's epigenetic mechanism of action



Lunasin bioactivity of soy protein formulations



LunaRich: Nutrition at a Higher Level

What is it? Reliv's exclusive **non-GMO LunaRich®** delivers five to ten times the amount of **lunasin**, a naturally occurring peptide that provides many of soy's documented health benefits. Numerous studies demonstrate lunasin's superior support for **cancer-preventive effects, cardiovascular health, significant anti-inflammatory properties, anti-aging, and skin health.**

LunaRich products are quite simply the most advanced soy formulations on the market today!