

Scientific Background & Research Summary:

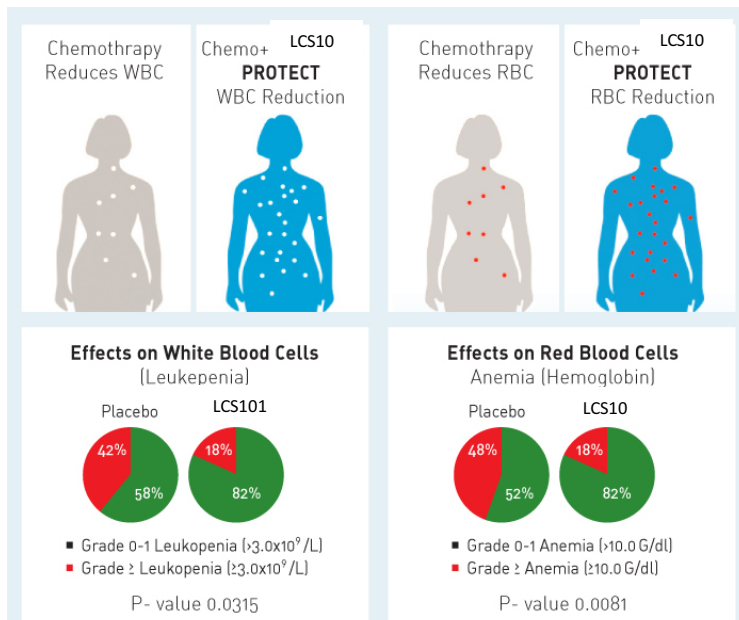
LCS101 is a unique, multi-targeted, natural, bio-active, botanical compound, which is based on many years of clinical experience and research. There have been many studies conducted on LCS101 with renowned oncologists and scientists in Medical Centers in Israel and the US and at the Bar Ilan University Cancer and immunology Research Laboratories. A Randomized Control Clinical Trial (RCT) on LCS101, carried out in the Oncology Department of a leading Hospital in Israel.

LCS101 multi-targeted action has been shown to be effective in:

1. **Protection** from chemotherapy side effects
2. **Killing** of cancer cells
3. **Immune** enhancement

1. Protection from chemotherapy side effects:

Reducing chemotherapy side effects by more than 50%. LCS101 was clinically tested in a study



Reducing chemotherapy side effects (WBC, RBC) by more than 50%:

While chemotherapy weakens the immune system, the LCS101 RCT Phase II Clinical Trial in Breast Cancer Patients receiving chemotherapy demonstrated strong protective effects of the immune system (red & white blood cell counts)

conducted at the Tel Aviv Sourasky Medical Center Oncology Department. This breakthrough study demonstrated that breast cancer patients undergoing chemotherapy and using LCS101 showed **an increased recovery rate, improved quality of life and enhanced immune system.**

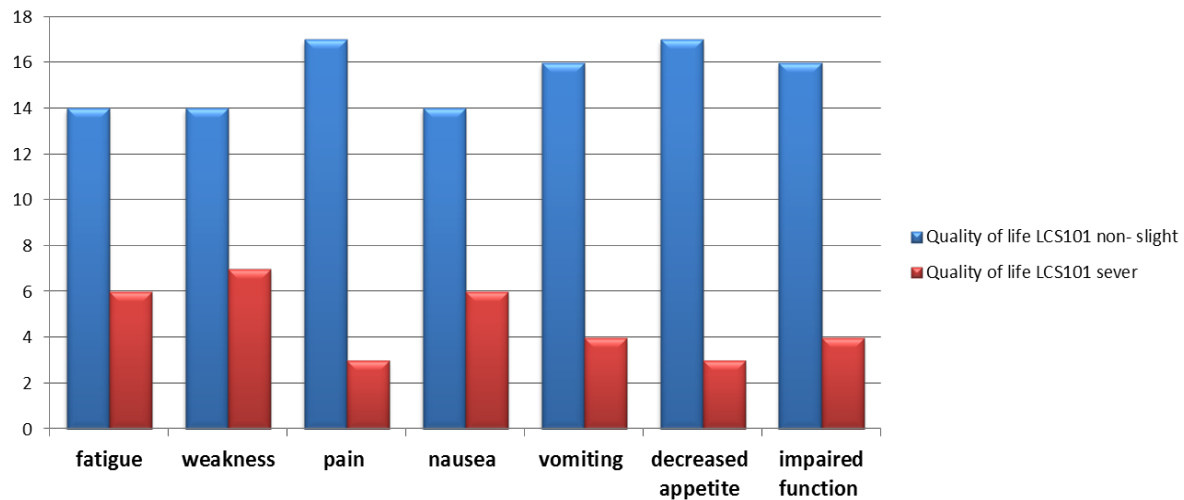
While chemotherapy weakens the immune system, the LCS101 RCT Phase II Clinical Trial in Breast Cancer Patients receiving chemotherapy demonstrated strong protective effects of the immune system (red & white blood cell counts). The study showed statistically significant values for Anemia Leucopenia and Neutropenia.

The Clinical Trial was published in *The Oncologist* (one of the most prestigious Oncology Medical Journals). THE ONCOLOGIST*: 2011;16(9): 1197-1202)

In further pre-clinical studies, LCS101 has been shown to protect healthy cells from the effect of various chemotherapeutic drugs (5-fu, Taxol, Doxorubicin an more) while killing cancer cells (pancreatic, breast, colon and prostate cancer cells - in fact every solid cancer tumor tested).

2. Quality of life study:

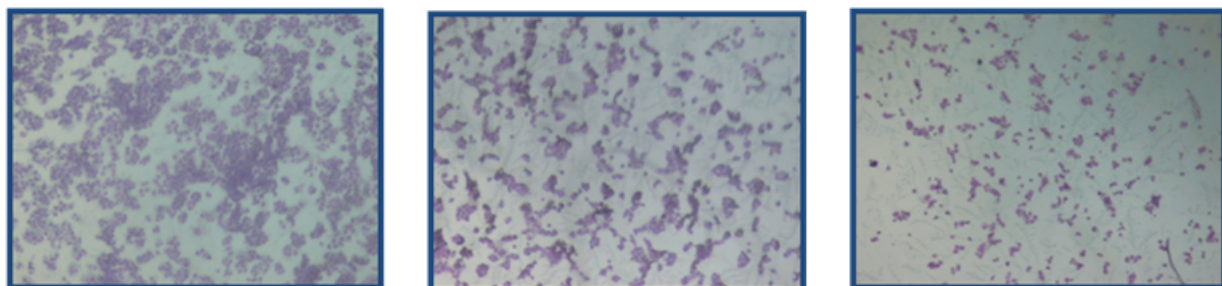
Effect of botanical compound LCS101 on chemotherapy-induced symptoms in breast cancer patients (published in: *Integrative Medicine Insights* 2013:8 1-8).



Clinical outcome: Most (70%) reported none to mild severity of fatigue; 60% none to mild weakness; 85% none to mild pain; 70% none to mild nausea; and 80% none to mild vomiting. **85% reported that they felt that LCS101 helped reduce their symptoms.**

4. Killing of cancer cells:

A published Study on LCS101 anti-cancer effect shows dose dependent inhibitory effect when tested on human breast cancer cell lines. (Published in: *The Journal of International Medical Research* - J Int Med Res. 2010;38(6):2033-9).



Control

Protectival™ (0.3 mg/ml)

Protectival™ (5 mg/ml)

FIGURE: Effect on cell proliferation of different concentrations of LCS101 incubated with T47D breast adenocarcinoma cells for 24h. (Cells visualized using light microscopy magnification of $\times 200$.)

Further In-Vitro research results show outstanding, unique, Selective Killing Ability on various cancer cells (breast, colon, prostate and more), while not harming healthy cells. These results were time and dose dependent and repeated in a Medical Facility Cancer Research Center (*International Journal of Oncology* 2014.2711).

3. Immune enhancement

The effect of LCS101 on various components of the immune system was evaluated.

The research results suggest that LCS101 possesses immune-modulatory capacity - as evidenced by augmentation of elements of both adaptive and innate immunity. These findings support the observations of a potential role for immune stimulation by LCS101, as a supportive treatment for cancer patients receiving chemotherapy.

Studies conducted at the Bar-Ilan University Cancer and Life Science Research Laboratories (Israel) and at the Dharma Laboratories in the Department of Pathology, Miami Children's Hospital (USA). (Published as a poster in the 2011: AACR- American Association for Cancer Research 102 Annual Meeting; and at the SIO - Conference of the Society of Integrative Oncology. (publication: Immunomodulatory effects of the botanical compound LCS101: implications for cancer treatment. *OncoTargets and Therapy* 2013:6 1–9).

The immune-modulatory effects on both innate and adaptive immunity: LCS101 was shown to stimulate T-cell activity, activate NK cells and TNF α , and inhibit interferon- γ production in the presence of 5-FU. These effects are all considered to have anti-cancer potential.

In-Vitro study:

LCS101 was shown to increase up to 400% the activity on Natural Killer Cells in peripheral human blood.

LCS101 Formula is Proprietary and patented – both regarding the ingredient concentration and the unique Product Development and Production Process – which are essential to Product Safety & Efficacy. The outstanding safety & efficacy are the result of 15 years of intensive Scientific Research & Development and should not be provided in any other form.

LCS101 is currently available as product which can be sent to individual practitioners or patients:

For more information www.lifebiotic.com

