

Breast Cancer Treatment

Type: Review Article

Received: June 22, 2026

Published: July 21, 2026

Citation:

Christina Rahm. "Breast Cancer Treatment". PriMera Scientific Surgical Research and Practice 8.1 (2026): 145-149.

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Christina Rahm*

DRC VENTURES LLC, USA

***Corresponding Author:** Christina Rahm, DRC VENTURES LLC, USA.

Abstract

Breast cancer is one of the most prevalent and biologically complex malignancies worldwide, requiring treatment strategies that extend beyond tumor eradication to account for individual patient variability and the potential toxicities associated with therapy. Surgery, radiotherapy, chemotherapy, endocrine therapy, targeted agents, and immunotherapy have made a lot of improvements to the survival rates of various subtypes of breast cancer. Nevertheless, these treatments are often linked to systemic side effects, immunosuppression, metabolic imbalance, and reduced quality of life. The necessity to maintain patient resilience in the context of extended treatment courses has become more evident as the survival rates are increasing. Adjunctive therapies that regulate tumor-promoting biological pathways with an augmentation of treatment tolerance can hence be found in integrative oncology. This white paper will look at a patented proprietary formulation/treatment protocol that was designed as an adjunctive therapy in the case of breast cancer. The method involves the use of five synchronized formulations made of natural bioactive compounds, micronutrients, prebiotics, and phytochemicals, and applied using a structured, time-based dosing schedule. The patented technique is based on emerging scientific data on modulation of inflammation, regulation of oxidative stress, immune support, metabolic optimization, and gut-tumor axis interactions. Instead of presenting its invention as a curative intervention, it is specifically made to be used with the known oncologic therapies. It aims at sustaining physiological systems that are mostly suppressed in the normal course of cancer treatment. This paper discusses the scientific reason, mechanical plausibility, formulation synergy, and clinical relevance of the patented strategy.

Background and Clinical Context

The Burden of Breast Cancer

Breast cancer has been identified as the major cancer type that is diagnosed in women, and it is also a major cause of cancer-related death. It includes many subtypes, and each of them is characterized by different prognoses, responses to treatments, and risks of recurrence, and requires specific treatment. Despite the progress of precision medicine, breast cancer treatment can continue over a long period of months or years, causing systemic toxicities, immunosuppression, and impaired quality of life (Bodai & Nakata, 2020). Complementary strategies to overcome side effects of treatment, such as fatigue and nutritional deficiency, are often demanded by patients, and the evidence-based approach

to adjunctive use in oncology is necessary. They should be incorporated in clinical practice in a responsible manner in order to prevent dangers that come with unmonitored use of the supplements.

The Role of Adjunctive Therapies

Adjunctive therapies are becoming a very important component of the overall care of cancer as they aid physiological mechanisms in addition to conventional therapy. They have objectives to boost the immune system, lower inflammation, and deal with oxidative stress, and their advantages are better treatment adherence and quality of life (Jiang & Li, 2024). Other objectives include enhancing gastrointestinal dysfunction, metabolic stability and increasing the overall tolerance to treatment. In this case, adjunctive interventions can enhance patient compliance and decrease gaps in treatment when used in a responsible way. They can also help to have a better quality of life through extended therapy. The reviewed patented invention proposes a multi-formulation system that incorporates nutritional, botanical, and biochemical ingredients, enhancing a coordinated system instead of independent supplements (Mokbel & Mokbel, 2024). This protocol-based technique places emphasis on structure and biological justification to bring adjunctive therapies to scientific standards, facilitating the ethical stance of oncology.

Overview of the Patented Treatment Method

The patented therapeutic protocol involves five proprietary formulations delivered as a combination at the same time based on a graduated dosing regimen and carried over a specific treatment course, usually 180 to 360 days. All formulations have one specific physiological role, but they are all a part of a holistic approach to treatment. The protocol focuses more on consistency, timing, and biological sequencing as opposed to episodic or symptomatic use. This is a structured design that made this invention different as compared to the traditional single-agent supplements (Forma et al., 2024). The formulations should be administered together with other regular oncologic treatments and not alone. The dosing schedule is aimed at increasing tolerability and prolonged adherence. These five types of formulation are mineral-based detoxification and micronutrient solution, a phytochemical-rich liquid with polyphenols and metabolic substrates, and a micronutrient formulation aimed at supporting the immune and antioxidant systems. Other ingredients involve a prebiotic and plant-based formulation that aims at supporting gut health and metabolic control, and a capsule-based formulation that provides flavonoids, cofactors, and vitamins (Bodai & Nakata, 2020). These formulations together cover various biological systems that are involved in cancer progression and stress associated with treatment. This is due to the fact that the formulations are supposed to be administered concurrently to facilitate synergistic effects. Gradual dose escalation will enable physiological adaptation with time. This combined method is indicative of a systemic perspective of supportive cancer care.

Scientific Rationale and Mechanistic Basis

Most of the bioactive compounds contained in the patented formulations are backed by preclinical and translational studies that prove to be relevant in cancer-related biological processes. Certain polyphenols such as curcumin, resveratrol, quercetin, and thymoquinone have been shown to exhibit anti-inflammatory, antioxidant and antiproliferative effects in the laboratory models (Herrera-Quintana et al., 2024). They are active in signal transduction that are involved in apoptosis, angiogenesis, oxidative stress and cell cycle regulation. According to Neagoe et al. (2024) vitamins and minerals like vitamin C, vitamin D, zinc, and magnesium have critical functions in immune competence, enzyme activity as well as in DNA repair. Prebiotic fiber and vegetarian nutrients aid in maintaining the diversity of the gut microbiome, which is becoming a known controller of systemic immunity and inflammation (Arnone et al., 2025). Although each of the given compounds does not form a part of a cancer therapy, their combination gives them mechanistic plausibility to benefit. This cumulative evidence is used to explain the multi-component approach to formulation in the patent.

The patented technology works with the concept of providing biological fortification of the host systems instead of causing tumor cytotoxic effects directly. Inflammatory processes, including chronic oxidative stress, immune malfunction, and metabolic pathophysiology, are proven causes of cancer development and resistance to treatment. The formulations can contribute to the development of a less favorable physiological environment that can support the growth of tumors and be more sensitive to standard therapy by targeting these processes (Thu et al., 2023). Antioxidants can minimize collateral tissue damage from chemotherapy and radiation. Nutri-

tional immune-supportive measures can be used to maintain immune surveillance in case of long-term treatment regimes. Metabolic factors aid cellular energy pathways that are usually interrupted by cancer treatment (Zhang et al., 2021). All of these mechanisms enable a biologically plausible explanation of the adjunctive utility of the protocol.

Synergistic Formulation Design

Multi-Pathway Targeting

The multi-pathway targeting approach is one of the primary features of the patented approach. The protocol acts on several interacting biological systems simultaneously, rather than focusing on a specific molecular process. These processes include inflammatory exposure, oxidative homeostasis, immune response, metabolic efficiency, and nutrient uptake. Such a design represents the intricacy of the biology of breast cancer and stressors associated with its treatment (Chen et al., 2025). The evolution of cancer is seldom governed by any one pathway, and therefore, systems-based assistance is especially pertinent. It is possible to improve the overall physiological resilience by targeting several spheres. The combination of different but complementary compounds enables the formulations to biologically strengthen each other (Wolf et al., 2022). All the formulations play a role in overlapping physiological objectives with a different role. This modality reflects those principles that are applied in combination with oncologic therapies but in a supportive and not cytotoxic setting (Bose et al., 2025). The focus on synergy separates the invention from single supplement use. It also highlights the significance of coordinated design during adjunctive interventions. This multi-pathway targeting is in line with the modern integrative models of oncology.

Time-Dependent Dosing Protocol

The graduated dosing schedule that is found in the patent is a scientifically significant element of the invention. Slow increases in dose will enable the body to adjust to bioactive substances, which can decrease gastrointestinal intolerance and metabolic stress (Sun et al., 2024). The method is based on the pharmacological philosophy of enhancing safety and compliance. The sudden exposure to the high dose is not done, and the increase is made gradually. This kind of titration can be of important concern, especially in patients who are receiving intensive cancer therapy (Fan et al., 2025). The protocol is tolerable rather than fast escalating. The invention focuses on long-term compliance through the orderly rise in dosage during days and weeks. Biological modulation needs to be sustained through regular exposures and not occasional. Standardization and reproducibility are also made easy through the dosing schedule (Gamba et al., 2025). This is a way of overcoming a frequent rebuttal of complementary therapies, which are usually not given with any regularity. The invention tends to be protocol-driven, which makes it scientifically credible. It supports the position of dosing strategy as a component of adjunctive efficacy.

Clinical Observations and Translational Considerations

Observational Evidence

The patent has documented a case of a postmenopausal patient with a diagnosed breast mass, but was put on an adjunctive protocol before surgery. The imaging at a specified time frame following a specified period of treatment showed that the tumor had reduced in size. The mass was also more defined in relation to the adjacent tissue. Although this observation is not an aspect of controlled clinical evidence, it offers some initial support to biological plausibility (Westerman et al., 2025). Hypotheses, which may be used in future research, can be created with the aid of case observations. They can also indicate places that should be the focus of systematic research. Notably, the patent does not exaggerate these findings nor does it purport causality. The description of the observation is not conclusive but descriptive. This inhibited meaning is coherent with good scientific communication (Munteanu et al., 2024). It emphasizes the importance of controlled trials to determine efficacy and safety. Observational data are to be considered a base and not evidence of efficacy. This caution is critical in the case of innovation associated with oncology.

Integration with Standard of Care

The patented approach is clearly stated to be an adjunct approach to known breast cancer therapies and not as a replacement. This is intended to be used either through surgery, chemotherapy, radiation, endocrine treatment, or targeted agents. This ranking is in line with ethical and clinical best practices in integrative oncology. Treatments that are of standard care are still at the center of disease management. The adjunctive protocols are supposed to facilitate rather than replace such therapies (Duggan et al., 2025). Effective communication with patients is hence necessary. Oncology providers should be coordinated in order to observe patient response and possible interactions. The safety, gradual dosing, and supportive intent that the invention focuses on make such integration easy. Adjunctive methods can be used to boost patient-centered care when used responsibly (Scafuri et al., 2025). They can also work on quality-of-life issues that are not emphasized in conventional oncology. This combined posture enhances the clinical significance of the protocol patented.

Advantages and Limitations

The patented solution has a number of strengths, such as a multi-component and systems-based design. Its focus on immune and metabolic support approaches can solve the known issues in cancer care. Dosing schedules lead to increased tolerability and compliance. Compounds of known safety profiles are more likely to be used as adjunctive (Dong et al., 2025). Also, the protocol reacts to the patient's request for integrative options that are based on scientific principles. All these features add value to the potential value. Though there should be certain limitations that are important to take into consideration. The data from clinical trials are scarce, and most of the evidence is preclinical or observational. The results can be different based on the type of tumor, regimen, and patient biology. Close liaison with providers in oncology should be taken to prevent unintended interactions. To be able to deploy responsibly, one must understand these limitations. More study will be required in the future to shed some light on efficacy and scope.

Future Directions and Research Implications

More research is justified as a way to critically test the patented method. Randomized controlled trials are required to evaluate the clinical efficacy, safety, and quality-of-life results. Studies must also be conducted to identify biomarkers of response (Wang et al., 2026). The knowledge of the interactions with certain cancer therapies will be essential. The best length and dosage rates are also to be implemented. This kind of research will support evidence-based integration. The systematic study has a solid base in the structured nature of the patented protocol. Well-stated formulations and dosing regimens are effective in reproducibility. With the development of integrative oncology, these protocols could be used as the bridge between supportive care and conventional medicine (Vitorino et al., 2023). It will be inappropriate unless it is scientifically evaluated further. This is a platform for future research and not a conclusive therapeutic decision.

Conclusion

The proprietary formulation and treatment regimen of breast cancer is patent pending and scientifically plausible as an adjunctive method that would provide additional support to breast cancer patients receiving traditional oncologic therapy. The invention is an expression of a contemporary, systems-based view of cancer biology by focusing on inflammation, oxidative stress, immune competence, metabolic homeostasis, and gut health using coordinated formulations and dosing schedules. It is not meant to act as an independent therapy but as a supplement to known therapies. Although the existing evidence is still tentative, the methodology fills identified gaps in supportive cancer care. Further studies and clinical testing will also be necessary to establish its effectiveness and proper application. In an integrative oncology context, the protocol promises to increase the resilience and tolerance to treatment in patients.

References

1. Arnone AA., et al. "Gut microbiota interact with breast cancer therapeutics to modulate efficacy". *EMBO Molecular Medicine* 17.2 (2025): 219-234.

2. Bodai BI and Nakata TE. "Breast cancer: lifestyle, the human gut microbiota/microbiome, and survivorship". *The Permanente Journal* 24 (2020): 19-129.
3. Bose C., et al. "Breast cancer and microbiome: a systematic review highlighting challenges for clinical translation". *BMC women's health* 25.1 (2025): 416.
4. Chen XY, et al. "Dietary index for gut microbiota, genetic risk, and incidence of breast cancer: a prospective study". *Breast Cancer Research* 27.1 (2025): 175.
5. Dong R, et al. "Role of oxidative stress in the occurrence, development, and treatment of breast cancer". *Antioxidants* 14.1 (2025): 104.
6. Duggan C., et al. "Dietary index for gut microbiota, genetic risk, and incidence of breast cancer: a prospective study". *Breast Cancer Research* (2025).
7. Fan Z., et al. "Association between a dietary index for gut microbiota and breast cancer history in adult women: findings from NHANES 2011–2020". *Frontiers in Nutrition* 12 (2025): 1619809.
8. Forma A., et al. "Micronutrient status and breast cancer: a narrative review". *International Journal of Molecular Sciences* 25.9 (2024): 4968.
9. Gamba G., et al. "Gut microbiota and breast cancer: systematic review and meta-analysis". *Breast Cancer* 32.2 (2025): 242-257.
10. Herrera-Quintana L, Vázquez-Lorente H and Plaza-Díaz J. "Breast cancer: extracellular matrix and microbiome interactions". *International Journal of Molecular Sciences* 25.13 (2024): 7226.
11. Jiang Y and Li Y. "Nutrition intervention and microbiome modulation in the Management of Breast Cancer". *Nutrients* 16.16 (2024): 2644.
12. Mokbel K and Mokbel K. "Harnessing micronutrient power: vitamins, antioxidants, and probiotics in breast cancer prevention". *Anticancer Research* 44.6 (2024): 2287-2295.
13. Munteanu C, Mârza SM and Papuc I. "The immunomodulatory effects of vitamins in cancer". *Frontiers in immunology* 15 (2024): 1464329.
14. Neagoe CXR, et al. "The Influence of microbiota on breast cancer: A review". *Cancers* 16.20 (2024): 3468.
15. Scafuri L., et al. "Impact of Dietary Supplements on Clinical Outcomes and Quality of Life in Patients with Breast Cancer: A Systematic Review". *Nutrients* 17.6 (2025): 981.
16. Sun L, Fang K and Yang Z. "Combination therapy with probiotics and anti-PD-L1 antibody synergistically ameliorates sepsis in a mouse model". *Heliyon* 10.11 (2024).
17. Thu MS, et al. "Effect of probiotics in breast cancer: a systematic review and meta-analysis". *Biology* 12.2 (2023): 280.
18. Vitorino M., et al. "Human microbiota and immunotherapy in breast cancer: a review of recent developments". *Frontiers in Oncology* 11 (2022): 815772.
19. Wang J., et al. "The Impact of Microbiome on Breast Cancer and Regulatory Strategies". *Microorganisms* (2026).
20. Westerman, R., et al. "Oxidative stress in breast cancer". *Frontiers in Oncology* 15 (2025): 1661039.
21. Wolf CP, et al. "Interactions in cancer treatment considering cancer therapy, concomitant medications, food, herbal medicine, and other supplements". *Journal of Cancer Research and Clinical Oncology* 148.2 (2022): 461-473.
22. Zhang J, Xia Y and Sun J. "Breast and gut microbiome in health and cancer". *Genes & Diseases* 8.5 (2021): 581-589.