



## Fermented Wheat Germ Extract Beneficial in Cancer Therapy

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(NaturalNews) Wheat germ is the most nutritious part of the wheat kernel. In fact, it is one of the most nutritionally dense foods available. When subjected to yeast fermentation, wheat germ becomes a source of two biologically active substances: 2-methoxy-benzoquinone and 2,6-dimethoxy-benzoquinone. Following fermentation, the resulting product can be standardized to a benzoquinone concentration that is capable of producing the desired health effects.

Investigation into the biochemical significance of fermented wheat germ began with Albert Szent-Györgyi. Szent-Györgyi was a Hungarian physiologist, credited with the isolation of vitamin C, and recipient of the 1937 Nobel Prize in Physiology or Medicine. He strongly believed in the idea of food as medicine. Szent-Györgyi noticed lower cancer rates among those who ate whole grains, compared to those eating mostly refined grains. This led him on a search to uncover the ingredient in wheat that might explain the observed cancer prevention. Later, he was able to demonstrate the potential of benzoquinone compounds in relation to cancer cell metabolism. Unfortunately, it was difficult to isolate a sufficient amount, and to achieve consistent concentrations, of the fermented product, which prevented Szent-Györgyi from taking his research to the next level.

### Availability and classification

Szent-Györgyi's efforts laid the groundwork for further research and development that continues today. New and improved industrial technologies have solved the problems of production and standardization. Now, a new generation of Hungarian scientists has picked up where Szent-Györgyi left off. Dr. Máté Hidvégi developed and patented an extract of fermented [wheat germ](#), called Avemar®.

Avemar was initially released in Hungary, as a dietary supplement, in 1998. After demonstration of its anti-cancer activity, Avemar received approval for clinical studies. Based on those results, it was registered as a medical nutriment for [cancer](#) patients in 2002. Under this registration, it is recommended as a complement to cancer treatment during and after surgery, radiotherapy, chemotherapy and immunotherapy.

It has since been registered for the same indications in Bulgaria and the Czech Republic, with registration pending in several other countries. In the United States, Avemar is classified as a dietary supplement, and is distributed under the name of Avé®.

### How does Avemar work?

Mechanisms of action responsible for Avemar's anti-cancer and immunoregulatory properties include:

- \* Prevents cancer cell proliferation
- \* Induces programmed cell death in cancer cells
- \* Enhances the immune system's ability to target cancerous cells
- \* Increases recovery rate of immune function following immunosuppressive therapies
- \* Decreases uptake of glucose by tumor cells
- \* Promotes balance between cellular and humoral immunity, thus regulating the immune response

This last point refers to one of the most interesting properties of Avemar. In cases of cancer, Avemar stimulates the immune system. In cases of autoimmunity (e.g. rheumatoid arthritis, systemic lupus erythematosus), it offers appropriate immunosuppressive effects. At first glance, this appears contradictory. However, Avemar is able to exert these seemingly opposite effects through its action on different segments of the immune system.

In most cases, cancer therapy complemented with Avemar is proven to be more effective than conventional treatment alone. Avemar not only enhances these treatments, but also reduces their damaging side effects.

Avemar itself has no adverse effects, and shows no toxicity toward normal cells.

### **Evidence for the supportive role of Avemar in cancer treatment**

A study examining the use of Avemar in patients with colorectal cancer, found significant improvements in those patients supplemented with Avemar. The Avemar group received traditional cancer therapy along with Avemar supplementation, whereas the control group received only traditional treatment. The results showed a significant reduction in new cancer recurrences (3% vs. 17.3%), new metastases (7.6% vs. 23.1%), and deaths (12.1% vs. 31.7%). The authors concluded that supportive use of Avemar is highly recommended in colorectal cancer treatment. This study was reported in the Orvosi Hetilap Hungarian Medical Journal.

Another study, from the British Journal of Cancer, reported similar findings. Supplementation of conventional cancer therapies with Avemar was found to improve progression-free and overall survival probabilities.

A [research](#) review, by the Hungarian Association of Oral and Maxillofacial Surgeons, found that the progression of malignant tumors of the oral cavity was slowed significantly with the use of Avemar. Furthermore, the five-year survival rate of patients was increased, and quality of life was improved.

The International Journal of Cancer reports a study evaluating the supportive use of Avemar in high-risk melanoma patients. Again, the time to progression and the probability of progression-free survival were increased in favor of patients taking Avemar. Fewer side effects were also noted in these patients.

As impressive as these results are, they represent only a fraction of the total published research on Avemar. There are currently more than 20 publications in peer-reviewed medical journals alone. Research has been funded by many government organizations including the Hungarian Scientific Research Foundation, the Ministry of Health in Spain, the Clinical Nutrition Research Unit of the University of California Los Angeles, INCO-COPERNICUS of the European Union, as well as NATO's Scientific Program.

References:

Avemar®

(<http://www.avemar.com/home.php>)

Avemar® Product Research

([http://www.avemar.com.au/avemar\\_research.ews](http://www.avemar.com.au/avemar_research.ews))

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American Biosciences, Inc.

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### **About the author**

Jeremiah Smith is a licensed and practicing pharmacist with a strong interest in nutrition and natural medicine. He is driven by a thirst for knowledge and a passion for helping others achieve optimal health. Smith writes articles on a range of topics related to wellness. You can visit his website at (<http://www.anewvision.info/>)