

## Clinical Applications

- Supports Cell Metabolic Regulation
- Supports Immune System Modulation
- Maintains Healthy Cellular and Humoral (Th1/Th2) Immune Balance
- Supports Optimal Natural Killer (NK) Cell Targeting Ability
- Supports Coordinated Response of Macrophages, B-cells and T-Cells



*OncoMAR™ contains a proprietary nutritional ingredient, Avenmar pulvis. The active ingredient is produced by a patented-process fermentation of wheat germ by baker's yeast and is standardized for the compound DMBQ (2,6-dimethoxy-substituted benzoquinones) (US Patent #6,355,474). More than 100 animal and human studies, resulting in more than 20 articles in peer-reviewed medical journals have demonstrated efficacy, mechanism of action and safety.*

*All XYMOGEN® Formulas Meet or Exceed cGMP Quality Standards.*

## Discussion

OncoMAR's dramatic effects are the result of at least six different mechanisms of action. The most unique mechanism is its ability to selectively inhibit non-oxidative glucose metabolism in cells that typically use glucose at a 10-50 times higher rate than normal cells.<sup>1</sup> The formula does not have any effect upon the glucose metabolism of healthy cells unless it is given at 50 times the recommended dose.<sup>2</sup> Two other mechanisms are its actions of inhibition of PARP (poly-ADP-ribose), an enzyme needed to repair DNA breaks,<sup>3</sup> and enhancement of Caspase-3, an enzyme that initiates apoptosis.<sup>4</sup>

Research also demonstrates OncoMAR restores normal metabolic pathways of healthy cells and increases production of their related RNA and DNA, while reducing synthesis of these nucleic acids in abnormal cells.<sup>5</sup> Furthermore, OncoMAR assists the NK cells in identifying targets for attack by suppressing the abnormal cells' ability to generate a surface molecule ("MHC-1") used by these cells to mask themselves from the immune system.<sup>6,7</sup> OncoMAR optimizes the functioning of macrophages, T cells and B cells and normalizes the imbalance of cellular and humoral (Th1/Th2) immune function that results from age and stress.<sup>8,9,10</sup> The formula also inhibits COX-1 Na COX-2 enzymes.<sup>11</sup>

Dr. Albert Szent-Gyorgyi, a 1937 recipient of the Nobel Prize in Medicine initiated development of this formula. His theory regarding the stabilization of cell metabolism with DMBQ (2,6-dimethoxy-p-benzoquinone), a naturally-occurring molecule, inspired Dr. Mate Hidvegi of Hungary to develop and patent the formula in 1989.<sup>12</sup>

OncoMAR is FDA GRAS-certified. Each single-serving packet of OncoMAR, delivered as an orange-flavored, instant drink mix, contains the same dose (8.5 g) of the identical Avenmar pulvis consumed and well-tolerated in numerous clinical trials. OncoMAR is used adjunctively to enhance standard protocols; or can be used by almost anyone as a stand-alone supplement for well-being. Hematological values remained within normal range after 1,3 and 5 years of formula use.

Most people who use OncoMAR daily have reported they notice within three weeks increased energy, improved appetite and a generally improved quality of life. However, depending upon the individual case, results may vary.



### Supplement Facts

Serving Size: 1 Package 17 g (.6 oz) - makes 8 fluid ounces prepared  
Servings Per Container: 30

	Amount per serving	% Daily Value
Calories	60	
Total Carbohydrates	13g	4%**
Sugars	7g	—
Protein	2g	
Thiamin (Vitamin B1)	320mcg	22%
Vitamin B6	120mcg	6%
Calcium	24mg	2%
Iron	1125mcg	8%
Phosphorus	135mg	13%
Magnesium	45mg	11%
Zinc	1170mcg	8%
Copper	41mcg	3%
Manganese	2250mcg	56%
Chromium	5mcg	8%
Molybdenum	13mcg	17%
Sodium	24mg	1%
Potassium	153mg	4%
Bioquinones, polyphenols	464mg	*
Flavonoids	500mcg	*

\*\*Percent Daily Values are based on a 2,000 calorie diet.

\* Daily Value not established.

### Dosing:

Pour 8 oz cold water or 4 oz of cold water and 4 oz of an unsweetened beverage (provided it does not contain any more than 10 mg vitamin C/serving)<sup>12</sup> into a shaker cup with a lid. Add one packet of OncoMAR; cover with lid, shake until blended. It is best to consume within 30 minutes of mixing, one hour before or after a meal, and two hours before or after any drugs or other dietary supplements. Use one packet daily for best results. Two packets daily are recommended for individuals weighing > 199 lbs. Consult a practitioner for use in children, with other supplements and/or for alternative dosing instructions. If diarrhea occurs, take ½ dose in the morning and the other half late afternoon. For long term results, use at least six months. Safety demonstrated with daily use over several years.

### References

1. Wheat germ extract decreases glucose uptake and RNA ribose formation but increases fatty acid synthesis in MIA pancreatic adenocarcinoma cells. *Pancreas* Aug 2001;23(2):141-7 [PMID: 11484916]
2. Heimbach JT, et al. Safety studies regarding a standardized extract of fermented wheat germ. *Int J Toxicol.* 2007 May-Jun;26(3):253-9 [PMID: 17564907]
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4. Farkas E. [Fermented wheat germ extract in the supportive therapy of colorectal cancer] *Orv Hetil.* 2005 Sep 11;146(37):1925-31 [PMID: 16255377]
5. Boros LG, et al. Wheat germ extract decreases glucose uptake and RNA ribose formation but increases fatty acid synthesis in MIA pancreatic adenocarcinoma cells. *Pancreas.* 2001 Aug;23(2):141-7.
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7. Lopez-Botet M, Bellon T. Natural killer cell activation and inhibition by receptors for MHC class 1. *Curr Opin. Immunol.*1999 11:301-307
8. Studies of the effect of Avemar on tumor necrosis factor induced cytotoxicity and on TNF production of immune cells. Institute of Biochemistry, Biological Research Center of the Hungarian Academy of Science. Szeged, 1999
9. Effects of Avemar on the early events of the immune response. Institute of Genetics, Biological Research Center of the Hungarian Academy of Science. Szeged, 1999.
10. Effect of Avemar on macrophages and microvascular endothelial cells. Scientific meeting of the Albert Szent-Györgyi Medical and Pharmaceutical Center of the Szeged University. Szeged, Hungary, 2000
11. Illmer, C. et al. Immunologic and biochemical effects of the fermented wheat germ extract Avemar. *Exp. Biol. Med.* 2005 Feb;230:144-149 [PMID: 15673563]
12. Hidvegi, M., et al. Effect of Avemar and Avemar + vitamin C on tumor growth and metastasis in experimental animals. *Anti-cancer Res.* 1998 18:2353-2358

### Caution:

The following individuals should not use OncoMAR: pregnant or nursing; recent organ or tissue recipient, GI bleeding from ulcers, malabsorption syndrome, gluten-sensitive enteropathies (celiac sprue), fructose intolerance or hypersensitivity to gluten, wheat germ or any component(s) or ingredient(s) in OncoMAR. Discontinue 2 days prior to barium X-rays and resume 2 days after completion of the exam.

### Storage:

For best results, store OncoMAR's sealed packets at room temperature not above 80 degrees. May be refrigerated.

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.