



AUG 31 1998

1697 '98 SEP -3 P2:14

Mr. Mark Olson
VP Research and Development
Metabolic Response Modifiers, Inc.
2633 West Pacific Coast Highway
Suite B
Newport Beach, California 92663

Dear Mr. Olson:

This is in response to your letter to the Food and Drug Administration (FDA), received on August 3, 1998, pursuant to 21 U.S.C. 343(r)(6) (section 403(r)(6) of the Federal Food, Drug, and Cosmetic Act (the Act)). Your submission states that Metabolic Response Modifiers is making certain statements for the product "Attention," a product you assert is a dietary supplement.

This product is not a dietary supplement within the meaning of 21 U.S.C. 321(ff). This product is a conventional food because it is represented as a "snackbar" or "snack bar" and as a "perfect addition to any healthy breakfast or lunchtime snack." 21 U.S.C. 321(ff) states, in part, that the term dietary supplement means a product that "is not represented for use as a conventional food." Therefore, if you intend to market this product as a dietary supplement, the references on the label or in the labeling that this product is intended for use as a conventional food must be removed.

In addition, the product labeling bears claims that evidence that the product is intended to treat, cure, prevent, or mitigate disease. The product is represented as follows:

"...to meet the needs of children with attention-behavior related problems (such as hyperactivity, impulsiveness and inattentiveness)

"These symptoms can cause long term problems in learning, socialization, and behavior for those afflicted and put them at risk for serious psychopathology in adulthood"

"Unfortunately, the most popular medical treatments available are central nervous system stimulants or H3 antagonist. According to the Physicians Desk Reference, these medications may products addictive tendencies and harmful side effects such as nervousness, insomnia, tachycardia and loss of appetite"

"Nutritional Alternatives"

"Several studies have looked at the relationship between DHA and attention deficit and hyperactivity disorder. Investigators....DHA were significantly lower in boys

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LET 215

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with Attention Deficit Disorder than those boys considered normal. In a study of dyslexics, British researchers..."

"...importance of the B-vitamins (folic acid, B-6, and B-12) for behavioral changes, depression and personality disorders"

"...contribute to neurologic and psychiatric conditions"

"...showed adolescents with behavior problems..."

"...used in traditional folk medicine for blood sugar related disorders"

"...normalize blood sugar..."

Your submission also states that Metabolic Response Modifiers is making numerous claims on the labeling of this product that contain, as a part of the claims, citations to one or more articles published in research journals or other sources. The use of citations that contain references to the role of a substance or product in treating, preventing, curing, or mitigating diseases such as attention deficit disorder, learning disorders, dyslexia and related disorders and disorders of glucose homeostasis suggest that this product is intended to treat, cure, prevent, or mitigate disease.

The statements that you are making for your product and the use of the citations to research articles suggest that it is intended to treat, prevent, cure, or mitigate diseases. These claims suggest that this product is intended for use as a drug within the meaning of 21 U.S.C. 321(g)(1)(B), and that it is subject to regulation under the drug provisions of the Act. If you intend to make claims of this nature, you should contact FDA's Center for Drug Evaluation and Research (CDER), Office of Compliance, HFD-310, 7520 Standish Place, Rockville, Maryland 20855.

Please contact us if we may be of further assistance.

Sincerely,

James T. Tanner, Ph.D.
Acting Director
Division of Programs and Enforcement Policy
Office of Special Nutritionals
Center for Food Safety
and Applied Nutrition

Copies:

FDA, Center for Drug Evaluation and Research, Office of Compliance, HFD-300

FDA, Office of the Associate Commissioner for Regulatory Affairs, Office of Enforcement, HFC-200

FDA, Los Angeles District Office, Compliance Branch, HFR-PA240

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cc:

HFA-224 (w/incoming)

HFA-305 (docket 97S-0163)

HFS-22 (CCO)

HFS-456 (file, r/f)

HFS-450 (r/f, file, OSN#60506)

HFD-310 (BWilliams)

HFD-314 (Aronson)

HFS-600 (Reynolds)

HFS-605 (Bowers)

GCF-1 (Nickerson, Dorsey)

r/d:HFS-456:RMoore:8/11/98

Init:GCF-1:DDorsey:8/26/98

f/t:rjm:HFS-456:8/27/98:60506.adv:disc31



**METABOLIC
RESPONSE
MODIFIERS**

60504

"Building Blocks For Enhanced Wellness And Performance"

Office of Special Nutritionals
HFS-450
Federal Drug Administration
200 "C" St., S.W.
Washington, DC 20204

RECEIVED
8/3/98

2633 W. COAST

HIGHWAY, SUITE B

NEWPORT BEACH, CA

92663

(800) 948-6296

(714) 722-1067

(714) 722-0725 FAX

Dear Sirs,

This letter is to inform your office that Metabolic Response Modifiers, inc., is marketing a dietary supplement with the following "structure function" claims appearing on our product and accompanying literature.

- Supplement Name: Attention!TM
- Wrapper of Dietary Supplement bar: Attached documents 1 & 2
- Shipper box containing bars: Attached documents 3 & 4
- Sales Support literature: Attached document 5

Published data regarding the structure function claims are available upon request.

If more information is required for proper notification to this office, please contact me at the address or fax numbers listed on the left-hand margin.

Thank you for assistance,

Mark Olson
VP Research and Development
Metabolic Response Modifiers, inc.

Attention!

The Delicious, Dietary Supplement Bar
Designed to Enhance Attention Span,
Mental Acuity & Concentration*

ATTENTION! is the natural alternative designed to enhance your child's attentive behavior. Scientifically formulated, **ATTENTION!** offers a unique array of researched neuro-nutrients, including DHA and Lisdopa. PS shown in recent studies to support concentration levels and mental acuity.*

ATTENTION! also contains nutrients shown to help balance blood glucose levels.

Suggested Use: As a dietary supplement for children ages 4-18, enjoy one **ATTENTION!** stickbar daily. A perfect addition to any healthy breakfast or lunchtime snack. For maximum benefit, take as a part of an overall healthy dietary and lifestyle program. *The FDA has not evaluated these statements. This product is not meant to diagnose, cure, prevent or treat disease.

The Delicious, Dietary Supplement Bar
Designed to Enhance Attention Span,
Mental Acuity & Concentration*

Attention!

ATTENTION! is a trademark of MAM, Inc.
Newport Beach, CA

1/2 tsp of Portions of your purchase help fund ADD

(Attention Deficit Disorder) research in children. Thank you for your support.

WARNING: If your child has, or you suspect, a medical condition, see the advice of his/her health care professional prior to use. This product contains Simg of Iron per serving.



The Delicious, Dietary Supplement Bar Designed to
Enhance Attention Span, Mental Acuity & Concentration*

Active Ingredients: DHA (docosahexaenoic acid)-250mg, PS (phosphatidylserine)-20mg, DMAE (dimethylamino ethanol bitartrate)-100mg, Tyrosine-20mg, Alpha lipoic acid-25mg, Gymnema sylvestre extract-5mg, Chromium (AA chelate)-200mcg, Grape seed extract-50mg, Glutamic acid-50mg, Opuntia streptocantha (prickly pear cactus)-20mg, Choline bitartrate-100mg, Inositol-100mg, Pyridoxine hcl (B-6)-50mg, Betaine hcl (trimethylglycine)-25mg, Magnesium (AA chelate)-50mg, Grape crystals-200mg, Folic acid-800mcg, B-12 (cyanocobalamin)-700mcg, Ascorbic acid-39mg, Niacinamide-11mg, Riboflavin-980mcg, Thiamin hcl-665mcg, Vitamin A-3IU, Vitamin E (dl-alpha tocopheryl acetate)-15IU, Vitamin D3-240IU, Biotin-180mcg, Calcium pantothenate-6mg, Copper (gluconate)-1mg, Iron (glycerate)-9mg, Potassium (iodide)-122mcg, Zinc (oxide)-6mg.

Bar Matrix: Attention™ grain mix (brown rice, rolled oats), sweetener system (fructose syrup (thaumatococcus natural sweetener from African berries), natural flavors, spices and yogurt coating (fruit source*, fractionated vegetable oil, lecithin)).

ATTENTION! is free of yeast, wheat, corn, milk, egg, soy, gluten, salicylates, added starch, preservatives or artificial colors.

Attention!

The Delicious, Dietary Supplement Bar Designed to
Enhance Attention Span, Mental Acuity & Concentration*

167%	Folate	50%	Niacin	50%	Iron	50%	Calcium	4%	Cholesterol	50%	Vitamin C	50%	Riboflavin	50%	Vitamin A	50%	Thiamin	50%	Thiamin
6g	Protein	27g	Sugars	0mg	Sodium	20mg	Cholesterol	5g	Sat. Fat	2g	Total Carb.	5g	Total Fat	5g	Total Fat	5g	Total Carb.	5g	Total Fat
42g	Fiber	2g	Fiber	2g	Fiber	2g	Fiber	2g	Fiber	2g	Fiber	2g	Fiber	2g	Fiber	2g	Fiber	2g	Fiber
AN %	AN %	AN %	AN %	AN %	AN %	AN %	AN %	AN %	AN %	AN %	AN %	AN %	AN %	AN %	AN %	AN %	AN %	AN %	AN %

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3

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2

Invest in your future,
Buy M&M.

Buy M&M.

Active Ingredients: DHA (docosahexaenoic acid)-250mg, PS (phosphatidylserine)-20mg, DMAE (dimethylamino ethanol bitartrate)-100mg, Tyrosine-20mg, Alpha lipoic acid-25mg, Gymnema sylvestre extract-5mg, Chromium (chelate)-200mcg, Grape seed extract-50mg, Glutamic acid-50mg, Opuntia streptacantha (prickly pear cactus)-20mg, Choline (bitartrate)-100mg, Inositol-100mg, B-6 (pyridoxine HCl)-50mg, Betaine HCl (trimethylglycine)-25mg, Magnesium (chelate)-50mg, Grape crystals-200mg, Folic acid-800mcg, B-12 (cyanocobalamin)-700mcg, Ascorbic acid-39mg, Nicotinamide-11mg, Riboflavin-980mcg, Thiamin HCl-865mcg, Vitamin A-3IU, Vitamin E (mixed tocopherols)-15IU, Vitamin D3-240IU, Biotin-180mcg, Calcium pantothenate-6mg, Copper (gluconate)-1mg, Iron (glycinate)-9mg, Potassium (iodide)-122mcg, Zinc (oxide)-8mg. Bar ingredients: Attention™ grain mix (brown rice, rolled oats) Glyco-Balance™ sweetener system (fructose syrup, thaumatin (natural sweetener from African berries)) natural flavors, spices and yogurt coating (fruit/soy source, non-hydrogenated vegetable oil, lecithin). ATTENTION™ is free of yeast, wheat, corn, egg, salicylates, preservatives, artificial colors and flavors.

- All Natural
- Rich in Brain Nutrients
- Pineapple Flavor



The Delicious, Dietary Supplement Bar Designed to Enhance Attention Span & Concentration™

NET WT. 2 Oz. 57g

*The FDA has not evaluated these statements. This product is not meant to diagnose, cure, prevent or treat disease.

ATTENTION™ is the natural alternative designed to enhance your child's attentive behavior. Scientifically formulated, ATTENTION™ offers a unique array of researched neuro-nutrients, including DHA and Lipoben® PS, shown in recent studies to support concentration levels and mental acuity. ATTENTION™ also contains nutrients shown to help balance blood glucose levels.

Suggested Use: As a dietary supplement for children ages 4-18, enjoy one ATTENTION™ snackbar daily. A perfect addition to any healthy breakfast or lunchtime snack! For maximum benefit, take as a part of an overall healthy dietary and lifestyle program. *The FDA has not evaluated these statements. This product is not meant to diagnose, cure, prevent or treat disease.

Attention! Portions of your purchase help fund ADD (Attention Deficit Disorder) research in children. Thank you for your support.

WARNINGS: If your child has, or you suspect a medical condition seek the advice of his/her health care professional prior to use. This product contains 9mg of iron per serving.

Amount/Serving % DV*	Amount/Serving % DV*
Total Fat 3.5g	Total Carb. 42g
Sat. Fat 2.5g	Dietary Fiber 2g
Cholesterol 0mg	Sugars 27g
Sodium 3g	Iron 50%
Vitamin A 50%	Calcium 4%
Vitamin C 50%	Niacin 50%
Riboflavin 50%	Folate 167%
Thiamin 50%	

Serv. Size: 1 Bar (57g/2.0oz.)
Serving: 1
Calories: 210
Fat Cal.: 35

* Daily Value based on 2,000 Calorie Diet

individual wrapper



• HIGH IN BRAIN-NUTRIENTS

• HELPS CONTROL BLOOD SUGAR LEVELS

• DELICIOUS HUCKLEBERRY FLAVOR!

• SCIENTIFICALLY RESEARCHED & FORMULATED

• UNIQUE DELIVERY SYSTEM

• GREAT ALTERNATIVE TO SWALLOW

• GREAT TASTE!

Shipping box side 3

promotional insert

NUTRITION FOR CHILDREN

This combination of nutrients is a beneficial nutritional supplement in a unique delivery system designed to meet the needs of children with attention-behavior related problems (such as hyperactivity, impulsiveness and inattentiveness)⁽¹⁾. These symptoms can cause long term problems in learning, socialization, and behavior for those afflicted and put them at risk for serious psychopathology in adulthood⁽²⁾. The direct causes are still unknown, however, neurochemical imbalances⁽³⁾, nutritional deficiencies⁽⁴⁾, food allergies⁽⁵⁾, hypoglycemia⁽⁶⁾, poor eating habits⁽⁷⁾, artificial food additives and preservatives^(8,9), and environmental chemicals⁽¹⁰⁾ have been implicated. Unfortunately, the most popular medical treatments available are central nervous system stimulants or H₃ antagonist. According to the Physicians Desk Reference[®], these medications may produce addictive tendencies and harmful side effects such as nervousness, insomnia, tachycardia and loss of appetite.

Nutritional Alternatives

Consisting of essential fatty acids, phospholipids, specific vitamins, minerals and herbs, this combination of specific nutrients is the ultimate nutritional supplement for children with behavior and learning problems. According to research the nutrients in this formula have been shown to enhance neurologic function and learning capabilities as well as help control blood sugar. It's no secret that most children intensely dislike swallowing tablets, capsules and medicinal type liquids. These combinations of nutrients are in the form of a delicious [snack] bar and offer the perfect solution in assuring that children receive the appropriate nutrients essential for growth.

Fatty acids and Phospholipids

Essential fatty acids (EFA) are vital for human growth and optimum neurological development⁽¹¹⁾. Humans lack the necessary enzymes to produce these fatty acids so we must get them from the diet or through supplementation. One EFA that has generated successful research results is docosahexaenoic acid (DHA). DHA is a polyunsaturated omega-3 fatty acid formed from alpha-linolenic acid or obtained directly from fish oils. DHA has been shown to be essential for proper brain function and development^(12,13). Several studies have looked at the relationship between DHA and attention deficit and hyperactivity disorder. Investigators at Purdue University reported that serum and red blood cell levels of DHA were significantly lower in boys with Attention Deficit Disorder than those boys considered normal⁽¹⁴⁾. In a study of dyslexics, British researchers reported marked improvements in reading ability and behavior when patients were supplemented with DHA⁽¹⁵⁾.

Phosphatidylserine (PS)

A naturally occurring phospholipid found in the brain, PS influences a number of metabolic and pharmacologic functions⁽¹⁶⁾. Numerous studies have documented the impact of PS on specific brain neurotransmitters including acetylcholine, serotonin, norepinephrine and dopamine. Many researchers agree that these neurochemical systems are involved in behavior and cognitive function. Several studies have shown a significant improvement in behavior, concentration, attention and memory when patients are supplemented with PS daily⁽¹⁷⁾.

Vitamins and Minerals

Vitamin and mineral deficiencies have been implicated in mental performance⁽¹⁸⁾. Several studies have shown the importance of the B-vitamins (folic acid, B-6, and B-12) for behavioral changes, depression and personality disorders. Scientists at Baylor University Medical Center reported that B-12 and folic acid deficiencies could alter neurotransmitter function and contribute to neurologic and psychiatric conditions⁽¹⁹⁾. Vitamin B-6, an important coenzyme for the biosynthesis of neurotransmitters GABA, dopamine and serotonin, is required for optimal brain function. Researchers in Spain observed a clinical improvement in behavior and school performance when patients were supplemented with B-6 and folic acid⁽²⁰⁾. The results of a Canadian study showed adolescents with behavior problems had a striking iron deficiency⁽²¹⁾, while zinc deficiency has also been implicated⁽²²⁾.

Betaine (trimethylglycine)

Betain is a compound found commonly in animals and plants such as broccoli and beets. In conjunction with B-vitamins, Betaine supplementation has shown the ability to improve behavior and school performance⁽²⁵⁾. Two Polish studies revealed hyperactive children from 4-13 years old had significantly lower levels of ***magnesium*** than the control group and found it necessary to supplement in order to improve behavior⁽²⁵⁾.

Several other vital nutrients in this **special nutrient combination** have been related to mood, mind, memory and behavior problems. ***DMAE (deanol), tyrosine, glutamic acid, choline and inositol*** play an important role in neurotransmitter action and deficiencies may contribute to impaired cognitive function.

Controlling Blood Sugar

There may be an association between excessive sugar consumption and behavior problems.

Researchers performed oral glucose tolerance tests on several hundred hyperactive children with the majority exhibiting abnormal glucose metabolism⁽²⁶⁾. Erratic blood sugar levels may eventually lead to hypoglycemia (low blood sugar). The body responds to the low blood sugar by releasing adrenaline and other hormones, thereby possibly contributing to aberrant and hyperactive behavior. Scientists have discovered excessive refined carbohydrates and sugar consumption will promote hypoglycemic reaction⁽²⁵⁾. **This combination** incorporates several nutrients designed to help modulate blood sugar. ***Chromium***, a fundamental trace element required for all insulin-regulating activities⁽²⁶⁾, plays a central role in regulating blood sugar⁽²⁷⁾. Therefore, deficiencies of chromium can disrupt the normal insulin-glucose relationship contributing to hypoglycemic condition⁽²⁷⁾. ***Gymnema sylvestre***, an herb native to India, has been used in traditional folk medicine for blood sugar related disorders. Animal studies indicate this herb helps to normalize blood sugar by optimizing serum insulin levels⁽²⁸⁾. ***Opuntia streptacantha*** is a species of nopal prickly pear cactus commonly found in Mexico and other arid lands around the world. Numerous international studies have demonstrated that Opuntia Streptacantha has positive effects on cholesterol and can help normalize blood sugar⁽²⁹⁾. ***Lipoic acid*** is an antioxidant produced naturally in the body and is also found in red meat and the leaves of some plants. It functions as a co-factor for a number of important enzymes responsible for the conversion of food to energy (ATP). Clinical experiments have shown lipoic acid can help normalize blood sugar levels by increasing cellular uptake and burning of glucose⁽³⁰⁾.

The Food & Drug Administration (FDA) has not evaluated these Statements. This product is not intended to diagnose, cure or prevent any disease.

References:

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- (2) Attention Deficit Hyperactivity Disorder. **Pediatric Nursing**, 1996 Jan-Feb, 22(1):30
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- (5) Controlled Trial of Hyperaeritisation in Children with Food Induced Hyperkinetic Syndrome. **Lancet**, 1992, May 9: 339(8802): 1150
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