1 2 3 4 5 6 7 8	WILLIAM BLUMENTHAL General Counsel ALYSA S. BERNSTEIN Trial Counsel Federal Trade Commission 600 Pennsylvania Avenue NW, NJ-3212 Washington, DC 20580 Phone: 202-326-3289 Fax: 202-326-3259 abernstein@ftc.gov Attorney for Plaintiff Federal Trade Commission	
9		
10		
11		
12	UNITED STATES DISTRICT COURT MIDDLE DISTRICT OF FLORIDA	
13	FEDERAL TRADE COMMISSION,	
14	, in the second	
15	Plaintiff,	
	v.	
16 17	GLUCORELL, INC., ANAFIT, INC., LAURENCE BERUBE, and JEREL SCOTT FERGUSON,	COMPLAINT FOR INJUNCTIVE AND OTHER
18	Defendants.	EQUITABLE RELIEF
19		
20		
21		n ("FTC"), through its undersigned attorneys,
22	alleges as follows:	
	1. Plaintiff FTC brings this action under Section 13(b) of the Federal Trade	
23	Commission Act ("FTC Act"), 15 U.S.C. § 53	(b), to secure a permanent injunction,
24	rescission or reformation of contracts, restitution	on, the refund of monies paid, the
25	disgorgement of ill-gotten monies, and other ea	quitable relief against Defendants for engaging
26	in deceptive acts or practices in connection wit	th the advertising, marketing, and sale of
		2, 2,

Insulow, which purports to prevent and treat diabetes, and of Glucorell R, which purports to prevent and treat diabetes and cancer, in violation of Sections 5(a) and 12 of the FTC Act, 15 U.S.C. §§ 45(a) and 52.

JURISDICTION AND VENUE

- 2. This Court has jurisdiction over this matter pursuant to 15 U.S.C. §§ 45(a), 52, and 53(b), and 28 U.S.C. §§ 1331, 1337(a) and 1345.
- 3. Venue in this District is proper under 15 U.S.C. § 53(b) and 28 U.S.C. §§ 1391(b) and (c).

THE PARTIES

- 4. Plaintiff, the Federal Trade Commission, is an independent agency of the United States Government created by statute. *See* 15 U.S.C. §§ 41-58. The FTC enforces Section 5(a) of the FTC Act, 15 U.S.C. § 45(a), which prohibits unfair or deceptive acts or practices in or affecting commerce. The FTC also enforces Section 12 of the FTC Act, 15 U.S.C. § 52, which prohibits false advertisements for foods, drugs, devices, services, or cosmetics in or affecting commerce. The FTC, through its own attorneys, may initiate federal district court proceedings to enjoin violations of the FTC Act and to secure such other equitable relief, including rescission of contracts, restitution, and disgorgement of ill-gotten monies, as may be appropriate in each case. 15 U.S.C. § 53(b).
- 5. Defendant Glucorell, Inc. ("Glucorell") is a Florida corporation with its principal place of business at 1834B N. Alafaya Trail, Orlando, FL, 32826, and a mailing address of 118 Winghurst Blvd., Orlando, FL, 32828. Since June 2004, acting alone or in concert with others, Glucorell has manufactured, marketed, distributed, and sold Insulow to consumers throughout the United States. Since 2001, acting alone or in concert with others, Glucorell has marketed Glucorell R to consumers throughout the United States. Glucorell transacts or has transacted business in the Middle District of Florida.
 - 6. Defendant Anafit, Inc. ("Anafit") is a Florida corporation with the same

principal place of business and mailing address as Glucorell. Since 2001, acting alone or in concert with others, Anafit has manufactured, marketed, distributed and sold Glucorell R to consumers throughout the United States. Anafit transacts or has transacted business in the Middle District of Florida.

- 7. Defendant Laurence Berube ("Berube") is the President and an owner of Glucorell and Anafit. His business address is the same as the mailing address of Glucorell and Anafit. Acting alone or in concert with others, Berube has formulated, directed, controlled, or participated in the policies, acts, or practices of Glucorell and Anafit including the various acts and practices set forth herein. Defendant Berube transacts or has transacted business in the Middle District of Florida.
- 8. Defendant Jerel Scott Ferguson ("Ferguson") is the Vice President and an owner of Glucorell. His business address is 5279 Vickie Drive, San Diego, CA, 92109. Acting alone or in concert with others, Ferguson has formulated, directed, controlled, or participated in the policies, acts, or practices of Glucorell and Anafit including the various acts and practices set forth herein. Defendant Ferguson transacts or has transacted business in the Middle District of Florida.
- 9. Collectively, Defendants Glucorell, Anafit, and Berube operate and have operated as a common enterprise while engaging in the deceptive acts and practices alleged below and are therefore jointly and severally liable for said acts and practices.

COMMERCE

10. The acts and practices of Defendants, as alleged herein, have been in or affecting commerce, as "commerce" is defined in Section 4 of the FTC Act, 15 U.S.C. § 44.

DEFENDANTS' COURSE OF BUSINESS

11. Since at least 2004 and continuing thereafter, Defendants Glucorell, Berube,

and Ferguson have advertised, promoted, offered for sale, sold, and distributed Insulow to the public.

- 12. Insulow purportedly contains R-alpha lipoic acid and biotin. Users are instructed to take one capsule 15 minutes before small carbohydrate meals and to take two capsules 15 minutes before large carbohydrate meals.
- 13. The suggested retail price for Insulow is approximately \$29.00 to \$39.99 for 180 tablets. Insulow is currently available online at www.amazon.com, www.cvs.com, and www.drugstore.com and was previously sold at major drug and grocery stores including Longs Drug Store, Albertsons, Osco Drug Store, and Sav-on Drug Store.
- 14. To induce consumers to purchase Insulow, Defendants Glucorell, Berube, and Ferguson advertised and promoted it on Clear Channel radio stations, on the Dr. Dean Edell Show, in segments on local Fox TV morning shows, in print in Women's Newsweek, and on Glucorell's own website, www.insulow.com.
- 15. To induce consumers to purchase Insulow, Defendants Glucorell, Berube, and Ferguson disseminated or caused to be disseminated advertisements, product labels, and other promotional material, including, but not limited to, the attached Exhibits A through F, containing, among other things, the following statements or depictions:
 - a. Radio Advertisement (Exhibit A)

Male Announcer: Concerned about your blood sugar levels, developing adult-onset diabetes, or are you currently struggling with diabetes complications? Please listen. Insulow can help. Insulow is a revolutionary, all-natural supplement formulated with a clinically proven ingredient used in Europe to help prevent and treat diabetes. Insulow works by improving your body's ability to utilize carbohydrates. It lowers high blood sugar levels and reduces high insulin levels. The result: Reduced risk of developing Type II diabetes and less complications from both Type I and Type II diabetes. Insulow will help you fight the epidemic that affects over one third of the adult population, diabetes, and the health problems associated with it. For more information about the health benefits of Insulow, visit Insulow.com. I-N-S-U-L-O-W, Insulow. Available at your local Save-On and Long's Drugs.

1 b. Print Advertisement (Exhibit B) 2 [Depiction of man's torso with same man injecting needle into his abdomen. Text above depiction reads: 3 If you are concerned about improving your body's use of 4 carbohydrates, high insulin levels or adult onset diabetes please read the following. . . 5 [Text overlayed atop depiction reads:] 6 Because this man's body doesn't use carbohydrates properly, he has 7 developed adult onset diabetes. Insulow® may be the only thing between you. . . and a needle like this one. 8 [*Under depiction appears a box of Insulow and the text:*] 9 Eating sugars and starchy foods cause insulin levels in the body to rise 10 quickly or "spike". Each time these spikes occur, our bodies become more and more resistant to the effects of insulin. Over time, insulin resistance may then lead to Adult Onset Diabetes. This is where 11 INSULOW® can help. You can use Insulow® to help utilize the carbohydrates you eat, lower your insulin levels, and help prevent 12 adult onset diabetes. Glucose is the food created by the body out of 13 the carbohydrates you eat. Insulin then shuttles that glucose around your body to the cells. Insulow® helps your body's cells to accept 14 much more glucose. The amount varies with age, degree if [sic] insulin resistance and other factors. Insulow's® ingredients have been 15 prescribed in Germany as a glucose uptake enhancer to help treat and prevent diabetes for over 20 years. Now you can use Insulow® to help utilize your carbohydrates, lower your insulin levels and help 16 prevent adult onset diabetes.. [sic] 17 Available at Eckerd Longs Drugs Sav-on drugs Osco Drug CVS.com 18 Insulow Packaging (Exhibit C) c. 19 **Front Panels:** 20 **NEW** Clinically Proven¢ Insulow® all natural Glucorell-R® 21 May prevent diabetes by lowering insulin levels and improving healthy utilization of carbohydrates.* 22 23 Side Panel: Clinically Proven *Insulow®* all natural Glucorell-R®... 24 How Insulow works. 25 *Insulow* increases insulin sensitivity, reduces insulin production, and improves the utilization of carbohydrates[1]. 26 Insulin's positive effects on your insulin sensitivity and insulin

production will result in increased energy, decreased carbohydrate-related tiredness[2], increased fat loss, and decreased insulin-related obesity[3].

Insulow also has very powerful positive effects in the skin[4], heart [5][6], brain[7][8], liver[9] and eyes[10].

See side panel for research study references 1-10. [In fine print] The active ingredient in Insulow has been used by prescription to help treat and prevent diabetes in many European countries for over 20 years. *However, these statements have not been evaluated by the US Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease in the US.

Side Panel:

Clinically Proven Insulow® all natural Glucorell-R®

- Decreases risk factors associated with diabetes
- Improves energy levels and carbohydrate utilization
- Provides significant anti-oxidant protection to brain, heart, skin, liver and eyes
- * Clinically proven in the following published research [citations omitted]

All Glucorell, Inc. products are satisfaction guaranteed or your money back.

d. Website www.insulow.com: homepage (Exhibit D)

[Heading]

Clinically Proven *Insulow®* The all natural formula for Diabetics PATENT PENDING

May help prevent diabetes by lowering high blood sugar levels, lowering high insulin levels and improving utilization of the carbohydrates you eat.

Insulow® contains the most exciting formula to ever become available in the United States. It's been used in Europe as an effective all natural remedy to help prevent and treat diabetes for over 30 years. Now you can use Insulow to help you lower your high blood sugar levels and lower high insulin levels. This may help prevent adult onset diabetes and help with the complications of diabetes without a prescription... This lowers high blood sugar levels and reduces high insulin levels. The end result is that you may reduce your risk of developing Type 2 Diabetes and help lessen the complications of both Type I and Type 2 Diabetes.

- Aside from eating healthier and exercising regularly, diabetics and those at risk of diabetes can now take Insulow to turn back the clock on diabetes. Insulow does what nature intended it maintains a proper balance of blood sugar levels.
- Insulow is the only all-natural oral supplement that addresses the root of the problem for diabetics and those at risk of diabetes the proper balance between insulin production and glucose uptake.

1 2 3 4		 Europeans have successfully prescribed a similar formula for diabetics for more than 30 years and this is the first time it's been available in the U.S. as an over the counter supplement. Insulow may help diabetics reduce or eliminate the amount of drugs and/or insulin that are required to properly maintain healthy blood sugar levels and reduce insulin resistance. Insulow may even prevent the development of type 2 diabetes.
5		 Reduces fat gain associated with a variety of diabetes medications. Helps relieve oxidative stress and glycemia that cause complications in the kidneys, eyes, liver, and diabetic peripheral neuropathy*.
6		What Insulow can help with if you have Type 1 diabetes.
7 8		Insulow improves energy levels and lowers high blood sugar and high insulin levels by helping to improve your body's insulin sensitivity if you're insulin resistant
9		What Insulow can help with if you're developing or have Type 2 diabetes. Insulow improves energy levels and lowers high blood sugar and insulin
10		levels
11		Note: Some Type 2 diabetics may need to use Insulow for 5-6 weeks for their blood sugar levels to be significantly affected Most people see results
12		within days.
13		[The following statement appears near the bottom of the home page: "The Insulow formula is not the alpha lipoic acid supplement typically found in
1415		supplement stores. It is also not K-R ALA which has never been proven effective and can not be tested for optical purity by a lab. Beware of imitations or 'sound alike' products"]
16	e.	Article entitled "Science Article by Dr [sic] Matt" accessed by link located
17		along left hand side of www.insulow.com (Exhibit E)
18		Matt Rawluk, B.Sc. Biochemistry
19		The fact is that Glucorell R from <i>Insulow</i> ® is the BEST lipoic acid on the
20		market – hands down. Here's a little more to tell you why they're the only company that will let you tap into the wealth of benefits offered by R-ALA, and what those benefits REALLY are
21		* * *
22		
23		Most of us have a little bit of fat which we'd like to get rid of come on, admit it – wouldn't you like those love handles gone? Thighs tighter? Butt firmer? Somehow, no matter how much we're able to lose with proper diet
24		and exercise, these stubborn pockets of fat linger. Why? Because, for the
25		most part, they're insulin-resistant. Insulin resistance in fat pockets means that they are unresponsive to insulin signaling, and can occur for a variety of
26		reasons (chronic hyperglycemia, genetic predisposition, receptor damage, etc.) Because of this, the body secretes more insulin, which further

downgrades the insulin response in resistant cells, which causes higher insulin secretion, which . . . well, you get the picture – and it's not pretty. R-ALA has been shown to actually prevent or REVERSE insulin resistance in clinical studies

* * *

Let's recap: R-ALA will decrease the level of harmful oxidants in your body, prevent or reverse insulin resistance, slow your conversion of carbohydrates into fats, normalize your blood sugar, and lower your blood pressure

* * *

Now here's where it starts to get really interesting if you're into burning fat. If R-ALA causes your consumed carbohydrates to be utilized by muscle tissue for fuel, it doesn't leave much (if any) for your adipocytes (fat storage/metabolism cells which make up adipose tissue). Just as you get hungry, so do your adipocytes. And when your adipocytes go to raid the fridge for their midnight snack, and there's no carbohydrate to be found, they decide on a nice big chunk of FAT. That's right – the very cells which produced the fat in the first place are forced to break it down so that they can survive. And where do they break it down? You guessed it – the mitochondria! Less fat synthesis + increased fat breakdown = reduction or elimination of those stubborn fat pockets you've always wanted to get rid of.

"So what's so different about Glucorell-R?"

Insulow® is composed of PURE R-alpha lipoic acid. Let me say that again – each dosage of Insulow® contains 100mg of pure, active, R-ALA (plus the 750 mcg biotin mentioned earlier). How do we do it? A proprietary process which yields the R form in high yields, without having to deal with the S form. This translates into better results for you, the customer, and better satisfaction for us – we can rest easy knowing that our products are the best they can possibly be.

"The bottom line. . ."

If you're serious about burning fat, increasing your energy levels, protecting your liver, reducing oxidative stress, and increasing your overall health, invest in Insulow today.

f. Article accessed by "Dr. Ervolino in Better Nutrition Magazine" link located along left-hand side of www.insulow.com (Exhibit F)

Sugar stabilizers: learn to prevent diabetes naturally

... Supplement-wise, exciting new choices are available to help prevent diabetes.

- * The most significant is R-lipoic acid, which actually helps transfer sugar, specifically glucose, into cells for use as energy--very important for diabetics. You may have heard of alpha-lipoic acid, which is a mixture of R- and S-lipoic acid. To be truly effective for diabetics, R-lipoic acid must work indepedently of S-lipoic acids. When looking for this supplement, if the label says "racemic mixture," then it's not pure R-lipoic acid. I recommend the Insulow brand.
- 16. Since at least 2001 and continuing thereafter, Defendants have advertised, promoted, offered for sale, sold, or distributed Glucorell R to the public.
- 17. Glucorell R purportedly contains R-alpha lipoic acid and biotin. Users are instructed to take one capsule 15 minutes before small carbohydrate meals and to take two capsules 15 minutes before large carbohydrate meals for best results.
- 18. The suggested retail price for Glucorell R is approximately \$24.95 to \$39.95 for 120 tablets. Glucorell R is currently available online at www.anafit.com/shop, www.paramount-supplements.com, and at www.naturalhealthconsult.com.
- 19. To induce consumers to purchase Glucorell R, Defendants advertised and promoted it on www.glucorellr.com, www.anafit.com, on various third-party websites, and in Alternative Medicine magazine.
- 20. To induce consumers to purchase Glucorell R, Defendants disseminated or caused to be disseminated advertisements, product labels, and other promotional material, including, but not limited to, the attached Exhibits G through J, containing, among other things, the following statements or depictions:
 - a. Website www.glucorellr.com: homepage (Exhibit G)

Welcome to GlucorellR.com

Glucorell RTM as seen in Alternative Medicine The Art & Science of Healthy Living.

[Depiction of the top half of a traditional Roman statue. Text above depiction reads:]

Now you can eat carbs. . .

[Text below depiction reads:]

	And still look like a work of art.
	Glucorell-R TM contains the most exciting supplement ever allowed into the United States. It's been used in Germany as a glucose uptake enhancer to help prevent and treat diabetes for over 20 years
	Glucose is what your body makes out of the carbohydrates you eat. Then
	your insulin shuttles that glucose around your body to the cells to use as food. Glucorell-RTM makes your muscle cells accept several times more glucose than you do now. By causing the muscle cells to take up so much more
	glucose you are preventing it from going to the fat cells. That way you are helping to make your muscles stronger while preventing all that glucose from
	going to your fat cells. When your fat cells get the glucose it makes you fat and over time may eventually cause insulin resistance, leading to adult onset
	diabetes.
	Glucorell-R TM , taken before carb meals, insures those carbs are disposed of properly into your muscles helping you to maintain healthy low insulin levels,
	which is a powerful aid in preventing you from getting fat or insulin resistant.
	[Depiction of the front of a bottle of Glucorell R. Text below depiction
	reads:]
	Supplement improving glucose sensitivity and uptake for lower insulin levels.
	* * *
	Glucorell R is R+ alpha lipoic acid R+ alpha lipoic acid has been
	shown to inhibit the transcription factor NF kappa which has been shown to
	shown to inhibit the transcription factor NF kappa which has been shown to activate cancer transcription. This means that R+ alpha lipoic acid may be an essential tool in preventing cancer proliferation.
b.	activate cancer transcription. This means that R+ alpha lipoic acid may be an
b.	activate cancer transcription. This means that R+ alpha lipoic acid may be an essential tool in preventing cancer proliferation.
b.	activate cancer transcription. This means that R+ alpha lipoic acid may be an essential tool in preventing cancer proliferation. Website www.glucorellr.com: frequently asked questions link from homepage (Exhibit H)
b.	activate cancer transcription. This means that R+ alpha lipoic acid may be an essential tool in preventing cancer proliferation. Website www.glucorellr.com: frequently asked questions link from homepage
b.	activate cancer transcription. This means that R+ alpha lipoic acid may be an essential tool in preventing cancer proliferation. Website www.glucorellr.com: frequently asked questions link from homepage (Exhibit H) [Heading]
b.	activate cancer transcription. This means that R+ alpha lipoic acid may be an essential tool in preventing cancer proliferation. Website www.glucorellr.com: frequently asked questions link from homepage (Exhibit H) [Heading] FAQ about Glucorell R [Depiction of the front of a box of Glucorell R. Text on box reads:] [In top left corner]
b.	activate cancer transcription. This means that R+ alpha lipoic acid may be an essential tool in preventing cancer proliferation. Website www.glucorellr.com: frequently asked questions link from homepage (Exhibit H) [Heading] FAQ about Glucorell R [Depiction of the front of a box of Glucorell R. Text on box reads:] [In top left corner] MP Technologies
b.	activate cancer transcription. This means that R+ alpha lipoic acid may be an essential tool in preventing cancer proliferation. Website www.glucorellr.com: frequently asked questions link from homepage (Exhibit H) [Heading] FAQ about Glucorell R [Depiction of the front of a box of Glucorell R. Text on box reads:] [In top left corner] MP Technologies [In center of box] Glucorell R
b.	activate cancer transcription. This means that R+ alpha lipoic acid may be an essential tool in preventing cancer proliferation. Website www.glucorellr.com: frequently asked questions link from homepage (Exhibit H) [Heading] FAQ about Glucorell R [Depiction of the front of a box of Glucorell R. Text on box reads:] [In top left corner] MP Technologies [In center of box]

1	Glucose Uptake Dietary Supplement
2 3	[Text below box reads:] What will it do for me?
4	First it acts as a glucose disposal agent. It actually increases the amount of carbohydrates taken up by muscle cells.
5	Second it improves insulin sensitivity allowing for larger amounts of
6	carbohydrates to be shuttled into muscle cells. Third it lowers plasma insulin which decreases the amount of carbohydrates and fats ingested from being
7	stored as adipose tissue (FAT). It is more effective with carbs, so a low fat
8	diet is preferable for best results. This also helps prevent diabetes.
9	c. Website www.glucorellr.com: testimonial link from homepage (Exhibit I)
10	[Heading]
11	Testimonial
12	[Depiction of a box of Glucorell R. Text on box reads:]
13	[In top left corner] MP Technologies
14	[In center]
15	Glucorell R All Natural R Alpha Lipoic Acid Clinically Proven
16	[In bottom left hand corner]
17	Glucose Uptake Dietary Supplement
18	[Text below box reads:]
19	
20	I can't rave enough about Glucorell-R. It is, by far, one of the best products I have ever bought.
21	* * *
22	A little about my medical history My grandmother and her sister died from
23	diabetes complications, and her niece (my cousin) died last August from being a diabetic who went fully blind, was on dialysis, and had a leg amputated. So
24	I'm not your typical customer who just wants to cut down on glucose. I HAVE TO, since blood sugar problems run rampant in my family.
25	Before taking Glucorell-R, I had severe pre-diabetic symptoms, such as
26	tingling feet and constant urination and thirst after eating sugar or carbs. Glucorell-R has completely solved that problem. My body feels normal

again, and I don't have ANY insulin swings – even after eating cheese fries at 1 Outback Steakhouse! 2 Your product is perfect, and it would benefit SO many people if they only knew about it... Hopefully the FDA won't ban it, for fear it will compete 3 with pharmaceutical diabetes drugs... 4 Sincerely, 5 Tara d. Website www.anafit.com/shop: Glucorell R product description (Exhibit J) 6 7 [Heading] The AF Store 8 **Uniquely Formulated Supplements...** 9 [Depiction of a box of Glucorell R. Text on box reads:] [In top left corner] 10 AvoPharm 11 [In center] Glucorell R 12 Natural R Lipoic Acid 13 with Biotin Clinically Proven 14 [In bottom left hand corner] 15 Glucose Uptake Dietary Supplement 16 [In bottom right hand corner] 17 Now available in 240 ct size [Text to left of box reads:] 18 19 ... RLA has been shown to inhibit the transcription factor NF kappa B which has been shown to activate cancer transcription. This means that RLA is an 20 essential tool in preventing cancer. 21 **DEFENDANTS' VIOLATIONS OF THE FTC ACT** 22 21. Section 5(a) of the FTC Act, 15 U.S.C. § 45(a), prohibits unfair or deceptive 23 acts or practices in or affecting commerce. Section 12(a) of the FTC Act, 15 U.S.C. § 52(a), 24 prohibits the dissemination of any false advertisement in or affecting commerce for the 25

purpose of inducing, or which is likely to induce, the purchase of food, drugs, devices,

26

services, or cosmetics. For the purposes of Section 12 of the FTC Act, 15 U.S.C. § 52, Insulow and Glucorell R are "foods" or "drugs" pursuant to Sections 15(b) and (c) of the FTC Act, 15 U.S.C. §§ 55(b) and (c). As set forth below, Defendants have engaged and are continuing to engage in such unlawful practices in connection with the marketing and sale of Insulow and Glucorell R.

COUNT ONE

Unsubstantiated Prevention and Treatment Claims for Insulow (Defendants Glucorell, Berube, and Ferguson)

- 22. Through the means described in Paragraph 15, including the statements and depictions contained in the advertisements attached as Exhibits A through F, among others, Defendants Glucorell, Berube, and Ferguson have represented, expressly or by implication, that Insulow:
 - a. Prevents or reduces the risk of developing Type II diabetes;
 - b. Is an effective treatment for Type I and Type II diabetes;
 - c. Lowers high blood sugar levels;
 - d. Prevents or reverses insulin resistance;
 - e. Enables diabetics to reduce or eliminate the amount of drugs and insulin that are required to maintain healthy blood sugar levels and reduce insulin resistance; and
 - f. Increases fat loss and decreases insulin-related obesity.
- 23. The representations set forth in Paragraph 22 were not substantiated at the time the representations were made. Therefore, the making of the representations set forth in Paragraph 22 constitutes a deceptive practice, and the making of false advertisements, in or affecting commerce, in violation of Sections 5(a) and 12 of the FTC Act, 15 U.S.C. §§ 45(a) and 52.

26

False Establishment Claims for Insulow (Defendants Glucorell, Berube, and Ferguson)

- Through the means described in Paragraph 15, including the statements 24. contained in the advertisements attached as Exhibits C through E, among others, Defendants Glucorell, Berube, and Ferguson have represented, expressly or by implication, that clinical studies prove that Insulow:
 - a. Prevents or reduces the risk of developing Type II diabetes;
 - b. Is an effective treatment for Type I and Type II diabetes;
 - Lowers high blood sugar levels; c.
 - d. Prevents or reverses insulin resistance; and
 - Increases fat loss and decreases insulin-related obesity. e.
- 25. The representations set forth in Paragraph 24 are false. Therefore, the making of the representations in Paragraph 24 constitutes a deceptive practice, and the making of a false advertisement, in or affecting commerce, in violation of Sections 5(a) and 12 of the FTC Act, 15 U.S.C. §§ 45(a) and 52.

<u>COUNT THREE</u> Unsubstantiated Prevention and Treatment Claims for Glucorell R (All Defendants)

- 26. Through the means described in Paragraph 20, including the statements and depictions contained in the advertisements attached as Exhibits G through J, among others, Defendants have represented, expressly or by implication, that Glucorell R:
 - Prevents or reduces the risk of developing Type II diabetes; a.
 - b. Is an effective treatment for Type II diabetes; and
 - Is effective in the treatment and prevention of cancer. c.
- 27. The representations set forth in Paragraph 26 were not substantiated at the time the representations were made. Therefore, the making of the representations set forth in Paragraph 26 constitutes a deceptive practice, and the making of false advertisements, in or

affecting commerce, in violation of Sections 5(a) and 12 of the FTC Act, 15 U.S.C. §§ 45(a) and 52.

COUNT FOURFalse Establishment Claims for Glucorell R (All Defendants)

- 28. Through the means described in Paragraph 20, including the statements contained in the advertisements attached as Exhibits G through J, among others, Defendants have represented, expressly or by implication that clinical studies prove that Glucorell R:
 - a. Prevents or reduces the risk of developing Type II diabetes; and
 - b. Is effective in the treatment and prevention of cancer.
- 29. The representations set forth in Paragraph 28 are false. Therefore, the making of the representations in Paragraph 28 constitutes a deceptive practice, and the making of a false advertisement, in or affecting commerce, in violation of Sections 5(a) and 12 of the FTC Act, 15 U.S.C. §§ 45(a) and 52.

CONSUMER INJURY

30. Consumers throughout the United States have suffered and continue to suffer substantial monetary loss as a result of Defendants' unlawful acts and practices. In addition, Defendants have been unjustly enriched as a result of their unlawful practices. Absent relief by this Court, Defendants are likely to continue to injure consumers, reap unjust enrichment, and harm the public interest.

THIS COURT'S POWER TO GRANT RELIEF

31. Section 13(b) of the FTC Act, 15 U.S.C. § 53(b), empowers this Court to grant injunctive and such other relief as the Court may deem appropriate to halt and redress violations of the FTC Act. The Court, in the exercise of its equitable jurisdiction, may award

	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	0	
1	1	
	2	
1	3	
1	4	
1	5	
1	6	
1	7	
	8	
	9	
2	0	
2	1	
2	2	
2	3	
	4	
2	5	

other ancillary relief, including, but not limited to, rescission or reformation of contracts, restitution, the refund of monies paid, and the disgorgement of ill-gotten monies, to prevent and remedy injury caused by Defendants' law violations.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Federal Trade Commission, pursuant to Section 13(b) of the FTC Act, 15 U.S.C. § 53(b), and the Court's own equitable powers, requests that the Court:

- 1. Enter a permanent injunction to prevent future violations of the FTC Act by Defendants;
- 2. Award such relief as the Court finds necessary to redress injury to consumers resulting from Defendants' violations of the FTC Act, including, but not limited to, rescission or reformation of contracts, restitution, the refund of monies paid, and the disgorgement of ill-gotten monies from Defendants; and
- 3. Award Plaintiff the costs of bringing this action, as well as such other and additional relief as the Court may determine to be just and proper.

Respectfully Submitted, WILLIAM BLUMENTHAL General Counsel

Dated: September 25, 2018

ALYSÁ S. BERNSTEIN

Trial Counsel

600 Pennsylvania Avenue NW, NJ-3212

Washington, DC 20580

Tel: 202-326-3289 abernstein@ftc.gov

Attorney for Plaintiff Federal Trade Commission

EXHIBIT A

OFFICIAL TRANSCRIPT PROCEEDING

FEDERAL TRADE COMMISSION

MATTER NO. 0723180

TITLE GLUCORELL, INC.

DATE RECORDED: DATE UNKNOWN

TRANSCRIBED: OCTOBER 30, 2007

PAGES 1 THROUGH 4

INSULOW KFI RADIO ADVERTISEMENT

FOR THE RECORD, INC. 603 POST OFFICE ROAD, SUITE 309 WALDORF, MARYLAND 20602 (301)870-8025

1	FEDERAL TRADE COMMISSION	
2	<u>INDEX</u>	
3		
4	RECORDING:	PAGE
5	Insulow KFI Radio Advertisement	3
6		
7		
8		
9		
10		
11	·	
12		
13		
14		
15		
16		
17		
18		
19		
20		
24		
12		
. }		

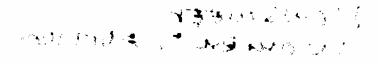
Ŧ	PEDBLOAD TRADE CONTISSION
2	
3	In the Matter of:)
4	Glucorell, Inc.) Matter No. 0723180
5) .
б)
7	Date Unknown
8	
9	
10	
11	The following transcript was produced from a
12	CD-ROM provided to For The Record, Inc. on October 25,
13	2007.
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	,

1	PROCEEDINGS
2	
3	INSULOW KFI RADIO ADVERTISEMENT
4	MALE NARRATOR: Concerned about your blood
5	sugar levels, developing adult onset diabetes, or are you
6	currently struggling with diabetes complications?
7	Please listen. Insulow can help.
8	Insulow is a revolutionary, all-natural
9	supplement formulated with a clinically proven ingredient
10	used in Europe to help prevent and treat diabetes.
11	Insulow works by improving your body's ability to utilize
12	carbohydrates. It lowers high blood sugar levels and
13	reduces high insulin levels.
14	The result: Reduced risk of developing Type II
15	diabetes and less complications from both Type I and Type
16	II diabetes.
17	Insulow will help you fight the epidemic that
18	affects over one-third of the adult population, diabetes,
19	and the health problems associated with it.
20	For more information about the health benefits
21	of Insulow, visit Insulow.com, I-N-S-U-L-O-W, Insulow.
22	Available at your local Save-On and Long's Drugs.
23	(The advertisement was concluded.)
24	
25	

1	CERTIFICATION OF TYPIST
2	
3	MATTER NUMBER: 0723180
4	CASE TITLE: GLUCORELL, INC.
5	TAPING DATE: DATE UNKNOWN
6	TRANSCRIPTION DATE: OCTOBER 30, 2007
7	
8	I HEREBY CERTIFY that the transcript contained
9	herein is a full and accurate transcript of the tapes
10	transcribed by me on the above cause before the FEDERAL
11	TRADE COMMISSION to the best of my knowledge and belief.
12	
13	DATED: OCTOBER 30, 2007
L 4	Clian M Marill
15	- Central Named
16	ELIZABETH M. FARRELL
17	
L8	CERTIFICATION OF PROOFREADER
L 9	
20	I HEREBY CERTIFY that I proofread the transcript for
21	accuracy in spelling, hyphenation, punctuation and
22	format.
23	Finda J. Rever
24	
25	WANDA J. RAVER

For The Record, Inc. (301) 870-8025 - www.ftrinc.net - (800) 921-5555

EXHIBIT B



If you are concerned about improving your body's use of carbohydrates, high insulin levels or adult onset diabetes





your carbohydrates, lower your insulin levels and help prevent adult onset diabetes...

Longs Drugs Savon drugs Osco Drug CVS.com

EXHIBIT C





Supplement facts

Active ingredients per capsule USRDA Dality Value
Glucorell-R[®] (r-alpha lipoic acid) 100 mg N/A
biotin 750 mg 250%

Usas:

Allows muscle cells to absorb carbohydrates more efficiently which reduces the excessive levels of insulin after meals that contain carbohydrates.

Wamings:

- If you are under the care of a physician, taking medication, pregnant or nursing, you should consult your healthcare provider before using this product.
- Do not exceed recommended dasages. Use this product only before meals containing carbohydrates.

Directions

Take 1 capsule 15 minutes before small carb mests. Take 2 capsules 15 minutes before large carbohydrate meats.

Advanced directions:

Take 1 capsule for every 30-40 grams of carbohydrates you will consume in your meal.

Inactive ingredients:

rice flour, silicon dioxide, gelatin, glycerine.

Discributed by Glucorell Inc. Orlando FL © 2003 For more information, visit www.insulow.com or call (866) INSULOW.



Why is insufin sensitivity important to good health?

- Insulin sensitivity is the measure of how good or bad your body is at utilizing cerbohydrates (carbe).
- If you are insulin sensitive your body uses your carbs in a healthy manner.
- If you are insulin resistant your body doesn't use the carbs in a healthy manner.
- Poor insulin sensitivity (or insulin resistance) leads to over production of insulin which causes obesity, insulin resistance and diabetes.

How Insulow works

Insulow increases insulin sensitivity, reduces insulin production, and improves the utilization of carbohydrates(1), Insulow's positive effects on your insulin sensitivity and insulin production will result in increased energy, decreased carbohydrate-related tiredness(2), increased fat loss, and decreased insulin-related obesity(3).

Instition also has very powerful positive effects in the skin[4], heart(5)[6], brain[7][8], liver[9] and eyes[10].

See side panel for research study references 1-10. The active ingredent in Encedow has been used by precription in help treat and prevent disbelles in many European countries for over 20 years. "However, these elements have not been evaluated by the US Food and Drug Administration. This product is not visinded to diagnose, treat, core, or prevent any disease in the US.



- Decreases risk factors associated with diabetes
- Improves energy levels and carbohydrate utilization
- Provides significant anti-oxidant protection to brain, heart, skin, liver and eyes

'Clinically proven in the following published research

(1) Differential effects of fipos and stereoleomers on glucose metabolism in meulin-resistant skeletal muscle. Am J Physiol. 1997 Jul 273(1 Pt 1) E 185-91

[2] Symptoms and well-being it relation to glycamic control in type it diabetes. Diabetes Care. 1996 Mar;19(3):204-10.

[3] Alpha-lippic acid hubbts adipocytis differentiation by regulating pro-edipogratic transcription factors via mileogra-activated protein trasse pathways.

Biol Chem. 2003 Sep 12:278(37):34823-33

[4] Activity of alpha-lipoic acid in the protection against accisnive attent in skin. Cust Probl Denmatol. 2001;29:43-51

(5) Oxdative stress in sping, heart is reversed by dietary supplementation with (R)-(alpha)-lippic acid. FASEB J. 2001 Mer;15(3):700-8

(8) Installin resistance in chronic heart fallure. Eur Heart J. 1994 Nov;15(11):1528-32

[7]Delaying brain mitochondrial decay and aging with mitochondrial antonitarits and metabolitan Ann N Y Acad Sci. 2002 Apr;598:133-68

(8) Pre-instituted with R-lipotic acid alleviates the affects of GSH depiation in PC12 calls: Implications for Pentinson's diseases therapy. Neurolookoology, 2002 Oct;23(4-6);479-86

(9) (R)-alphe lipoic acid reverses the age-essociated increase in susceptibility of hispaticytist to text-bulyflydroperoxide both in vehs and in vero. Antioxid Redox Signal, 2000 Fall 2(3):473-63

(10) Alpha-Rook acid protects the retire against inchemis-repartuation. Neurophemiscology, 2002 Nov,43(5):1015-25

All Glucorell, Inc. products are satisfaction guaranteed or your money back.

EXHIBIT D





May help prevent diahetes by lowering high blood sugar levels: lowering high insulin levels and improving utilization of the carbohydrates you eat

Insulow on FOX

<u>Insulow</u> Diabetes Health <u>Magazine</u>

Books Diabetes Solution Or Richard Bernstein Page 238-241

> Mood Food Jack Challem Page 210

Stop Pre-diabetes
Now
Jack Challem
Page 221

Diabetes Health TV interview at Diabetes Ed Show

> Testing and precautions Neuropathy

> > Type 2 and Children

Physician and Pharmacist Science and References

Diabetics and Pre-diabetics Don't control their Blood Sugar (Article)

Dr. Ervoling
in
Better Nutrition
Magazine

Science Article by Dr Matt

Science and References on the box

Side Panel ingredients

Contact

<u>Download an</u> Insulow Brochure Insulow® contains the most exciting formula to ever become available in the United States. It's been used in Europe as an effective all natural remedy to help prevent and treat diabetes for over 30 years. Now you can use Insulow to help you lower your high blood sugar levels and lower high insulin levels. This may help prevent adult onset diabetes and help with the complications of diabetes without a prescription. Insulow works by improving your body's ability to utilize the carbohydrates you eat. This lowers high blood sugar levels and reduces high insulin levels. The end result is that you may reduce your risk of developing Type 2 Diabetes and help lessen the complications of both Type 1 and Type 2 Diabetes.

- Aside from eating healthier and exercising regularly, diabetics and those at risk of diabetes can
 now take Insulow to turn back the clock on diabetes. Insulow does what nature intended it
 maintains a proper balance of blood sugar levels.
- Insulaw is the only all-natural oral supplement that addresses the root of the problem for diabetics and those at risk of diabetes - the proper balance between insulin production and glucose uptake.
- Europeans have successfully prescribed a similar formula for diabetics for more than 30 years and this is the first time it's been available in the U.S. as an over the counter supplement.
- Insulow may help diabetics reduce or eliminate the amount of drugs and/or insulin that are required to properly maintain healthy blood sugar levels and reduce insulin resistance.
- . Insulow may even prevent the development of type 2 diabetes.
- · Reduces fat gain associated with a vanety of diabetes medications.
- Helps relieve oxidative stress and glycemia that cause complications in the kidneys, eyes, liver, and diabetic peripheral neuropathy.³⁴

What Insulow can help with if you have Type 1 diabetes.

Insulow improves energy levels and lowers high blood sugar and high insulin levels by helping to improve your body's insulin sensitivity if you're insulin resistant.

Helps relieve onidative stress and glycemia that cause complications in the kidneys, eyes, liver, and peripheral neuropathy in diabetics.

Diabetics in America are not controlling their high blood sugar levels and it's important that they do.

Read an Associated Press Story.

What are the ingredients in the Insulow formula?

Click here for the pharmacology and ingredients.

Click here for a picture of the box side panel information.

Insulow is made with only the very highest quality materials to insure its effectiveness and potency. <u>Independent lab results</u>.

Insulow is available in drug stores and online without a prescription in the United States

What Insulow can help with if you're developing or have Type 2 diabetes.

Insulow improves energy levels and lowers high blood sugar and insulin levels. Insulow works by improving your body's ability to utilize the carbohydrates. This lowers high blood sugar levels and reduces high insulin levels by improving your insulin sensitivity.

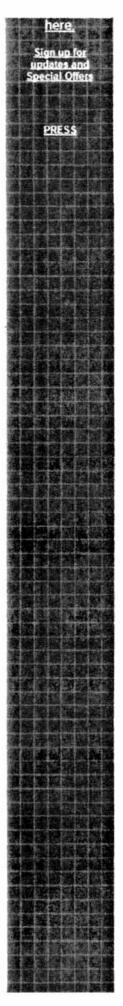
'If you give a bowl of ice cream to a 2 year old, in about 30 minutes they will be bouncing off the walls with energy. If you give the same bowl of ice cream to a 40 year old they will go take a nap on the couch." Or. Berkson New Mexico State University.

As you age the power plants (mitochondna) of your muscle cells wear out from oxidative stress. The result is that they have less and less R+ Lipoic acid (reduced form) in them. Without it the muscle cells then can't take in and use the glucose (sugar) you eat like they once could. This is a process that leads to insulin resistance and diabetes. This process speeds up with constantly high glucose levels that result from people eating a high levels of carbohydrates without exercise. When you take Insulow it replenished the R+ Lipoic acid you've lost over time or by eating excessive carbohydrates without exercise and returns your muscle cells to the healthy state they were in when you were a child, naturally. This reduces your insulin

Note: Some Type 2 diabetics may need to use Insulow for 5-6 weeks for their blood sugar levels to be significantly affected. Insulow may help repair the

resistance and enhances your body's ability to use

the glucose.



only. You'll find it in the supplement or diabetes section of the drug stores listed on this page.

"The Insulows formula is not the alpha lipoic acid supplement typically found in supplement stores. It is also not K-R ALA which has never been proven effective and can not be tested for optical purity by a lab. Beware of imitations or "sound alike" products. For more information click below.

Read about the difference between the Insulow ingredients vs. what other supplement companies offer and what the top researchers said in leading medical journals.

For more information about Insulows email us at info@insulow.com or call toll free 1-866-INSULOW

Download an Insulow Brochure here

Available without a prescription

cells in your organs very quickly. This may lead to a temporary rise in blood sugar levels in the first 2-3 weeks. Then the blood sugar levels reportedly fall dramatically as the muscle cells repair and catch up to the organs. While this is rare, we'd like people to know of the possibility. Most people see results within days.

How did I get into this trouble with my blood sugar levels and how does Insulow help?

Eating sugars and starchy foods cause insulin fevels in the body to rise quickly or "spike". Each time these spikes occur, our bodies become more and more resistant to the effects of insulin. Over time, insulin resistance may then lead to Adult Onset Diabetes. This is where INSULOW's can help. You can use insulow's to help utilize the carbohydrates you eat, this will improve blood sugar levels and lower your insulin levels, and help prevent adult onset diabetes.

Glucose is the food created by the body out of the carbohydrates you eat. Insulin then shuttles that glucose around your body to the cells. Insulow@ helps your body's cells take in much more glucose. The amount varies with age, degree of insulin resistance and other factors. Insulow's@ contains the R+ Lipoic Acid formula* that has been used as a prescription remedy in Europe for improving blood sugar and diabetes complications for over 20 years. Now you can use Insulow® to help improve your blood sugar levels, lower your insulin levels and help prevent adult onset diabetes.



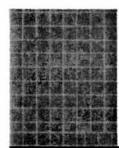
<u>Insulow on FOX Morning Shows,</u> <u>Requires Windows Media Player</u>



CVS.com To order by shore from CVS.com Call (388) 607-4287 amazon.com and you're done: drugstore

over 5000 independent pharmacies

Available at



These posterrents are supported by our call research but the mind been evaluated by the fibs

Insulow® is manufactured and distributed by Glucorell Inc. Orlando Florida 32828 1-866 INSULOW

EXHIBIT E



May help prevent diabetes by lowering high blood sugar levels, lowering high insulin levels and improving utilization of the carbohydrates you eat.



Home

Science and References on the box Glucorell-R:

Welcome to a whole new dimension in supplements.

Testing and

Matt Rawlok, B Sc. Biochemistry

Meuropathy

Type 2 and Children Unless you've been hiding under a rock these last couple of years, you've probably heard something about R-Lipoic Acid used in Europe. You've also probably heard some pretty outlandish tales which made you wonder
whether or not the people making them had taken their medication lately. The fact is that Glucorell R from
finsulow® is the BEST lipoic acid on the market - hands down. Here's a little more to tell you why they re the only
company that will let you tap into the wealth of benefits offered by R-ALA, and what those benefits REALLY are

Physician and Pharmacist Science and References

"What le it?"

Diabetics and Pre-diabetics Don't control their Blood Sugar (Article) R-ALA is a naturally occurring substance which has seen extensive use in Europe due to its ability to rejuvenate and restore the liver, as well as its antioxidant properties. R-ALA is actually a fatty acid compound, but is unique in that it has a sulfur-sulfur bond at the distal end (away from the carboxylic acid end of the fatty acid. It is this sulfur-sulfur bond which provides the antioxidant properties of R-ALA, due to the fact that it is easily reduced. For example, R-ALA is a great scavenger of hydroxyl radicals, these radicals are easily able to attack at one of the sulfurs and attach to the inolecule. After attachment, the -OH now on R-ALA is able to be disposed of safety by the body, either through fatry acid metabolism of through the passage of the -OH group to another antioxidant molecule such as Vitamin C (ascorbic acid) or Vitamin E (alpha-tocopherol).

Dr. Ervolino in Better Nutrition Magazine "Radical, man!"

Science Article by Dr Matt Metabolism is sometimes a violent thing; many enzymes are forced to generate energetically unfavourable products such as free radicals (and other oxidants) in order to produce other substances necessary for life. These free radicals have been implicated in premature aging (sun damage is a result of UV-induced free radicals which cause thymidine dimenzation in DNA), diseases of the liver (the liver is one of the hotbeds of radical production in the body, as it is forced to detoxify our bodies on a daily basis; long-term exposure has been implicated in diseases such as cirrhosis), and certain cancers (radicals + DNA = mouble waiting to happen). It doesn't take a genius to realize that minimizing free radicals in the body is key to good health and longevity. The free radicals produced in our bodies need to be neutralized as soon as possible to prevent them from reacting with something critical, with possibly disastrous consequences. This is where antitoxidants come in. Antioxidants are much tike an absorbent sponge which sucks up the radicals and puts them into a much less hamful form, the problem isn't what happens to the antioxidants, it's what happens when you don't have enough antioxidants to go around.

Side Panei

Contact

Download an Insulow Brochure here

"Lesn on me..."

Sign up for updates and Special Offers We've all heard this great song by Bill Withers and strangely enough, it applies to R-ALA. The fine "lean on me, when you're not strong, and I'll be your friend. I'll help you carry on for it won't be long, 'til I'm goina need somebody to lean on' is probably the best (and catchiest!) description of antioxidant regeneration in the body. The main players are Vitamins C and E, which we tend to consume as part of our daily diet, and Coenzyme Q, which we synthesize. The problem is, with today's fast-food culture, many of us aren't able to ingest enough of Vitamins C and E, or synthesize enough Coenzyme Q, to keep up with our own radical production. This is where R-ALA comes in Antioxidants use each other to swap functional groups and regenerate each other (remember the -OH group from our hydroxyl radical') - R-ALA is no different. By adding even a small amount of R-ALA to your daily diet, you can help your other antioxidants to do their job better because R-ALA will help to regenerate them - and R-ALA will act on its own to further reduce your free radical levels!

PRESS

R-ALA also acts to increase glutathione levels in cells (glutathione is another sulfur-containing antioxidant), and is a cofactor in a number of enzymes which are involved in metabolism (one example of such enzymes is the group of

alpha-keto acid dehydrogenases, critical in the citric acid cycle for the usage of metabolites such as alpha-ketoglutarate).

"I noticed that Insulow® includes additional Biotin..."

Yes, it does. This is because R-ALA can actually compete with Biotin in the body; without biotin supplementation, symptoms of biotin deficiency can actually manifest themselves. So, instead of making you go out and get biotin for yourself, we threw some in there for you! Now THAT'S service!

"OK, so R-ALA is just for old people, or people who are worried about radicals..."

WRONG! We're just getting started. Let's talk healthy, active people here – people like you and me. Most of us have a little bit of fat which we'd like to get rid of... come on, admit it – wouldn't you like those love handles gone? Thighs tighter? Butt firmer? Somehow, no matter how much we're able to lose with proper diet and exercise, these stubborn pockets of fat linger. Why? Because, for the most part, they're insulin-resistant. Insulin resistance in fat pockets means that they are unresponsive to insulin signaling, and can occur for a variety of reasons (chronic hyperglycemia, genetic predisposition, receptor damage, etc.). The bottom line is that these fat pockets simply don't respond the way the rest of the body responds to insulin. Because of this, the body secretes more insulin, which further downgrades the insulin response in resistant cells, which causes higher insulin secretion, which... well, you get the picture – and it's not pretty. R-ALA has been shown to actually prevent or REVERSE insulin resistance in clinical studies. Remember the antioxidant properties we talked about earlier? Well, here's an excerpt from a paper published by the University of Montreal:

"The antihypertensive action and the prevention of insulin resistance by lipoic acid appears to be associated with its antioxidant properties because it prevented the increase of oxidative stress..."

El Midaoui A and Champlain J (2002). Prevention of hypertension, insulin resistance and oxidative stress by alpha-lipoic acid. *Hypertension* 39(2):303-7.

By preventing or reversing insulin resistance, your body is able to PROPERLY respond to insulin. Proper response to insulin means your muscles are able to take up glucose from the bloodstream and utilize it for fuel – this reduces hyperglycemia and its associated negative effects. Not only is this good for your blood sugar, it's also good for your body fat! Excess carbohydrate (like sugars) is the main reason that most of us accumulate fat. By allowing our muscles to remove sugars from the bloodstream effectively, thus lowering blood sugar levels, we simply don't have the CHANCE to store the excess carbohydrate as fat! The significance of this fact will become clear in just a few seconds.

Also, notice they mentioned hypertension (high blood pressure) in the passage above. Not only does R-ALA help you burn excess fat by preventing/reversing insulin resistance, it lowers your blood pressure! I don't know about you, but that's definitely a side-effect I could get used to...

"Can you repeat that please?"

Let's recap: R-ALA will decrease the level of harmful oxidants in your body, prevent or reverse insulin resistance, slow your conversion of carbohydrates into fats, normalize your blood sugar, and lower your blood pressure. Man, I'd hate it if all of that happened – wouldn't you? But we're not done yet!

"Gentlemen, start your engines..."

Okay, remember that bit about slowing your storage of ingested carbohydrates as fats? Well, if that's a jab then this is the right roundhouse – R-ALA actually boosts your metabolic rate! No, I'm not kidding – R-ALA actually boosts your metabolic rate! The 'engine' of your body's cells is their mitochondria. Mitochondria are organelles (organelles are to cells as your organs are to your body) which provide the cell's energy via the metabolism of fuels like carbohydrates and fats (proteins are metabolized primarily in the cytosol of the cell, then the carbon skeletons of converted amino acids are used in the mitochondria). Bottom line: improve mitochondrial function, and you'll increase your metabolic rate. Let's take a look at what the labcoats over at University of California at Berkeley have to say about this one.

.. R-lippoic acid supplementation improves indices of metabolic activity as well as lowers oxidative stress and damage evident in aging.

Hagen TM et al (1999). R-alpha lipoic acid supplemented old rats have improved mitochondrial function, decreased oxidative damage, and increased metabolic rate. FASEB J (3)(2):411-8.

Look at the title of that paper - " ... improved mitochondrial function ... increased metabolic rate", this is exactly what we're talking about! Now here's where it starts to get really interesting if you're into burning fat. If R-ALA causes your consumed carbohydrates to be utilized by muscle tissue for fuel, it doesn't leave much (if any) for your adipocytes (fat storage/metabolism cells which make up adipose tissue). Just as you get hungry, so do your adipocytes. And when your adipocytes go to raid the findge for their midnight snack, and there's no carbohydrate to be found, they decide on a nice big chunk of FAT. That's right – the very cells which produced the fat in the first place are forced to break it down so that they can survive. And where do they break it down? You guessed it – the mitochondria! Less fat synthesis + increased fat breakdown = reduction or elimination of those stubborn fat pockets you've always wanted to get rid of

"But how are the muscle and fat cells differentially affected?"

Many people ask how R-ALA can possibly make a difference when it up-regulates the expression of the insulinsensitive glucotransporter GLUT4 in BOTH muscle and fat cells (myocytes and adipocytes). The answer is somewhat complicated. . but then again, so is the body. While R-ALA does upregulate the expression levels of GLUT4 in both adipocytes and myocytes, we have FAR more skeletal muscle in your body than we have fat cells. Thus, while the clearance rate of blood glucose due to adipocytes does in fact increase briefly, the clearance rate due to myocytes increases dramatically simply because of the sheer amount of muscle which has increased its GLUT4 activity. In essence, the adipocytes are the runts of the litter who can't quite elbow their way into the trough at feeding time. . there's simply too much muscle around. The bottom line, there just aren't enough adipocytes to compete with the high demand placed on blood glucose by skeletal muscle.

"So how is GLUT4 activity controlled, from a mechanistic point of view?"

We get this question a lot as well—it makes me feel good to know that someone out there is just as much of a keener as I am when it comes to this sort of thing. At the same time, it makes me sad because I can imagine what their social life is like

Let's take a look at a paper from the Hospital for Sick Children in Toronto:

". results indicate that R (+) lipoic acid directly activates lipid, tyrosine and serine/threonine kinases in target cells, which could lead to the stimulation of glucose uptake induced by this natural cofactor. These properties are unique among all agents currently used to lower glycaemia in animals and humans with diabetes."

Yaworsky K et al (2000). Engagement of the insulin-sensitive pathway in the stimulation of glucose transport by alpha-lipoic acid in 3T3-L1 adipocytes. *Diobetologia* 43(3):294-303

Now, you might have to take my word for it, but activation of specific kinases (and thus ATP dependence) is a hallmark of vesicular transport in cells. So, since we see activation of the kinase families listed above, we can postulate that GLUT4 is recycled using vesicles which bud off from the membrane and return to the cytoplasm when the insulin (or R-ALA) signal is removed. Upon the return of the signal, these vesicles localize and fuse with the membrane, placing the transporter once again in contact with the outside environment and thus allows it to take up glucose across the membrane and into the cell's interior. Evidence that wortmannin, an inhibitor or PI-3-Kinase, abolishes R-ALA shmulated glucose uptake provides some evidence that the mode of action is vesicular formation/fusion since PI-3-Kinase is critical for vesicle-mediated processes.

How the R-ALA stimulates these various kinases would likely be through interaction with either a cell-surface receptor which causes a signaling kinase cascade, or directly with one of the numerous heterotrimeric G proteins which would lead to the same sort of event. It's essentially a case of a possibly analogous pathway making sense in light of past evidence. Similar pathways exist for most, if not all, of the peptide hormones, neurotransmitters such as serotonin (5-HT) and epinephrine, and numerous other cell-signalling molecules — it just makes sense that a tried, tested, and true method would also be seen in the R-ALA mechanism since the final effects (multiple kinase activation) are so markedly similar. With the amount of research presently being done on R-ALA and its mode of

action, a definite answer cannot be far behind

"My training includes substances which cause liver damage..."

This is, admittedly, a bit of an aside – but many people have no idea how truly versatile – and valuable – R-ALA really is.

There's no disputing the fact that users of 17-alpha alkylated substances (and users of other substances) can do senous damage to their livers if they use these substances too much or too long. Not to mince words, if you damage your liver past a certain point, you probably shouldn't be making any plans for next year (or possibly even next week). Naturally, very few – if any – individuals reach this sort of crossroads, but I'm sure you see the point: protecting one's liver is of paramount importance.

R-ALA is one of the most versatile and most useful compounds known to man when it comes to treatment or protection of your liver. But don't take my word for it - talk to University of California at Berkeley:

"... alpha lipoic acid was also used as a therapeutic agent in a number of conditions relating to liver disease, including alcohol-induced damage, mushroom poisoning, metal intoxification, and CCl₄ [carbon tetrachloride] poisoning. Alpha-lipoic acid supplementation was successful in the treatment for these conditions in many cases."

Bustamante J et al (1998). Alpha-lipoic acid in liver metabolism and disease. Free Radic Biol Med 24(6):1023-39.

Why take chances with 17-alpha alkylated substances when protection can be so close at hand? Now, we're not saying that R-ALA is a miracle cure – if you're going to abuse these substances, you'll still suffer all of the ill effects (you can't stop a tidal wave with a bucket, right?). However, it's our belief that an investment in R-ALA is an investment in your future health.

"OK, that all sounds great... but what's with the R?"

The R's in R-ALA and Insulow® aren't just for show – they're a key piece of the puzzle when it comes to effectiveness of lipoic acid. To understand this a little better, let's look at what this R business is all about.

"Mirror, mirror, on the wall..."

Some molecules which contain carbon have a distinctive property of being optically active. This means that they can rotate plane-polarized light in a given direction. The reason for this is because of a certain absolute configuration around one (or more) carbon atoms which are bound to 4 different groups. This property is called chirality, and a molecule which has one or more of these stereogenic centers (the name for carbons bound to 4 different substituents) is called a chiral molecule. For every stereogenic center, there are two relative configurations, called enantiomers. Enantiomers are distinguishable based on the fact that they are non-superimposable mirror images. Good examples of two enantiomers are your right and left hand. They're mirror images of one another which can't be superimposed. Make sense? Remember the hand analogy; it will become important later.

Now I know you're probably wondering why you're still reading, and I admit it's not the most exciting thing you've probably ever read... but bear with me – this is all going somewhere. I'm just trying to help you better understand how some companies are ripping you off. Trust me, it will save you a lot of time, money, and frustration if you understand the difference between quality goods and half-baked ripoifs.

Let's get back to the stereochemistry for a second here. Remember the enantiomer thing? Well, it's no good to talk about enantiomers if we can't name them. So, three scientists named Cahn, Ingold, and Prelog decided to devise a system of naming based on atomic-number-based prioritization (if you want more details, check out an organic chemistry textbook). These rules became known as the CIP (Cahn-Ingold-Prelog) rules and it's these rules which

Insulow.com Page 5 of 8

give us the R (rectus, from the Latin meaning "nght") and S (sinister, from the Lating meaning "left") designations. Incidentally, if you've ever seen L and D- designations, such as on a bottle of L-glutamine or L-carnttine, these are a different system of nomenclature quite often used for biological molecules which is based on the way that $L_{-(-)}$ or $D_{-(-)}$ -glyceraidehyde (one of the first isolated optically active biological molecules) rotated plane-polarized light. D stands for dextrorotatory (rotating to the night) and L for levorotatory (rotating to the left). The D and L system cannot be related to the R and S system without actual experimental evidence, and is no longer used except for common, well-known molecules such as the L-amino acids and the D-sugars. A good example of a failure of the D/L system is D-(-)-lactic acid—but nevermind about that — we're talking in terms of R and S as it pertains to lippic acid.

Now, when most companies synthesize ALA, they do it in such a way that the result is what's known as a racemate – an equal mixture of the R and S forms of ALA, which is costly and time-consuming to purify. But who cares – lippic acid, right? If you believe that, then I've got some great ocean-front property near Las Vegas that I'd love to sell you.

"When the left hand holds back the right..."

Here's where all of your knowledge of stereochemistry pays off. Ready for it?

The R enantiomer of ALA is the ONLY enantiomer with significant, positive biological activity. It's the ONLY enantiomer which does the things listed above – reduction of oxidative stress, reversal of insulin resistance, and boosting of metabolism – to any great degree. Need proof? Here are just two examples out of an entire LIST of papers:

"This study revealed a marked stereospecificity in the prevention of buthionine sulfoximine-induced cataract, and in the protection of lens antioxidants, in newborn rats by alpha-lipoate, R-and racemic alpha-lipoate decreased cataract formation from 100% (buthionine sulfoximine only) to 55% (buthionine sulfoximine + R-alpha-lipoic acid) and 40% (buthionine sulfoximine - rac-alpha-lipoic acid) (p<0.05 compared to buthionine sulfoximine only). S-alpha-lipoic acid had no effect on cataract formation induced by buthionine sulfoximine. The lens antioxidants glutathione, ascorbate, and vitamin E were depleted to 45, 62, and 23% of control levels, respectively, by buthionine sulfoximine treatment, but were maintained at 84-97% of control levels when R-alpha-lipoic acid were administered with buthionine sulfoximine; S-alpha-lipoic acid administration had no protective effect on lens antioxidants."

Maitra I et al (1996). Stereospecific effects of R-lipoic acid on buthionine sulfoximine-induced cataract formation in newborn rats. *Biochem Biophys Res Commun* 16:221 (2):422-9.

"We determined the individual effects of the pure R-(+) and S-(-) enantiomers of ALA on glucose metabolism in skeletal muscle of an animal model of insulin resistance, hyperinsulinemia, and dyshipidemia: the obese Zucker (farfa) rat. Obese rats were treated intrapentoneally acutely (100 mg/kg body wt for 1 h) or chronically [10 days with 30 mg/kg of R-(+)-ALA or 50 mg/kg of S-(-)-ALA]. Glucose transport [2-deoxyglucose (2-DG) uptake], glycogen synthesis, and glucose oxidation were determined in the epitrochlearis muscles in the absence or presence of insulin (13.3 nM). Acutely, R-(+)-ALA increased insulin-mediated 2-DG-uptake by 64% (P < 0.05), whereas S-(-)-ALA had no significant effect."

Streeper RS et al (1997). Differential effects of lipoic acid stereoisomers on glucose metabolism in insulin-resistant skeletal muscle. Am J Physiol 273(1 Pt 1):E185-91.

Not only this, but the S enantiomer can actually REDUCE the effectiveness of the R enantiomer – the opposite configuration can actually cause the opposite effect! Why? Because the S enantiomer has enough similarity to occupy the sites that the R enantiomer does, without being similar enough to cause biological activity. It's like having a key that fits your keyhole, but it's for someone else's door – the key looks great, and it fits the lock, but in the end you're still stuck outside in the rain because the door won't open. Here's another excerpt from the same paper:

"Although chronic R-(+)-ALA treatment significantly reduced plasma insulin (17%) and free fatty acids (FFA, 35%) relative to vehicle-treated obese animals, S-(-)-ALA treatment further increased insulin (15%) and had no effect on FFA. Chronic R-(+)-ALA treatment elicited a 26% increase in insulin-stimulated glycogen synthesis and a 33% enhancement of insulin-stimulated glycogen synthesis and a 33% enhancement of insulin-stimulated glycose oxidation. No significant increase in these parameters was observed after S-(-

Insulow.com Page 6 of 8

)-ALA treatment. Glucose transporter (GLUT-4) protein was unchanged after chronic R-(+)-ALA treatment but was reduced to 81 +/-6% of obese control with S-(-)-ALA treatment. Therefore, chronic parenteral treatment with the antioxidant ALA enhances insulin-stimulated glucose transport and non-oxidative and oxidative glucose metabolism in insulin-resistant rat skeletal muscle, with the R-(+) enantiomer being much more effective than the S-(-) enantiomer."

Streeper RS et al (1997). Differential effects of lipoic acid stereoisomers on glucose metabolism in insulin-resistant skeletal muscle. Am J Physiol 273(1 Pt 1):E185-91.

In light of these studies, it should be painfully clear that supplement companies which sell you the racemate – and most of the others do – are RIPPING YOU OFF! Not only are they selling you substandard product, but it actually contains something which counteracts the good effects of its useful component! Talk about kicking the consumer while you're down...

"So what's so different about Glucorell-R?"

Insulow® is composed of PURE R-alpha lipoic acid. Let me say that again – each dosage of Insulow® contains 100mg of pure, active, R-ALA (plus the 750mcg biotin mentioned earlier). How do we do it? A proprietary process which yields the R form in high yields, without having to deal with the S form. This translates into better results for you, the customer, and better satisfaction for us – we can rest easy knowing that our products are the best they can possibly be.

"The bottom line..."

If you're serious about burning fat, increasing your energy levels, protecting your liver, reducing oxidative stress, and increasing your overall health, invest in Insulow today.

About the Author:

Matt Rawluk holds a B.Sc. with Specialization in Biochemistry from the University of Alberta, one of the finest biochemical and medical research schools in North America. He has played over nine years of football, including several at the University level prior to medically-forced returement, and has had experience with a wide variety of supplements and training methodologies. He is currently entering graduate studies (Ph.D.) in the Department of Biochemistry at the University of Alberta, and will be investigating the role that cyclin-dependent kinases play in the regulation of cell division with hopes that modulation of these enzymes might be used as a treatment for proliferative diseases such as cancer.

SELECTED REFERENCES:

R-ALA: GENERAL INFORMATION

- 1: Amer MA. Modulation of age-related biochemical changes and oxidative stress by vitamin C and glutathione supplementation in old rats. Ann Nusr Metab. 2002;46(5):165-8
- 2. Arivazhagan P, Ramanathan K, Panneerselvam C. Effect of DL-alpha-lipoic acid on mitochondrial enzymes in aged rats. Chem Biol Interact. 2001 Nov 28;138(2):189-98.
- 3: Arrvazhagan P, Juliet P, Panneerseivam C. Effect of di-alpha-lipoic acid on the status of lipid peroxidation and antioxidants in aged rats. Pharmacol Res. 2000 Mar; 41(3):299-303.
- 4: Bustamante J, Lodge JK, Marcocci L, Tritschler HJ, Packer L, Rihn BH. Alpha-lippic acid in liver metabolism and disease. Free Radic Biol Med. 1998 Apr;24(6):1023-39. Review.
- 5: Cakatay U, Telci A, Kayali R, Sivas A, Akcay T. Effect of alpha-lipoic acid supplementation on oxidative protein damage in the streptozotocin-diabetic rat. Res Exp Med (Berl). 2000 Feb;199(4):243-51.
- 6: Coombes JS, Powers SK, Hamilton KL, Demirel HA, Shanely RA, Zergeroglu MA, Sen CK, Packer L, Ji LL. Improved cardiac performance after isobomia in aged rats supplemented with vitamin E and alpha-lipoic acid. Am J. Physiol Regul Integr Comp Physiol. 2000 Dec;279(6):R2149-55.
- 7: El Midaout A, de Champlain J. Prevention of hypertension, insulin resistance, and oxidative stress by alpha-lipoic acid. *Hypertension*. 2002 Feb;39(2):303-7.
- 8: Hagen TM, Moreau R, Suh JH, Visioli F. Mitochondrial decay in the aging rat heart: evidence for improvement by dietary supplementation with acetyl-L-carnitine and/or lipoic acid. Ann N Y Acad Sci. 2002 Apr;959:491-507. Review.
- 9: Hagen TM, Liu J, Lykkerfeldt J, Wehr CM, Ingersoll RT, Vinarsky V, Bartholomew JC, Ames BN. Feeding acetyl-L-carnitine and tipoic acid to old rats significantly improves metabolic function while decreasing oxidative stress. Proc Natl Acad Sci U S A. 2002 Feb 19;99(4):1870-5. Erranum in: Proc Natl Acad Sci U S A 2002 May 14,99(10):7184.
- 10: Hagen TM, Vinarsky V, Wehr CM, Arnes BN. (R)-alpha-lipoic acid reverses the age-associ tert-butylhydroperoxide both in vitro and in vivo Antioxid Redox Signal. 2000 Fall;2(3):473-83.
- 11: Hagen TM, Ingersoll RT, Lykkesfeldt J, Liu J, Wehr CM, Vinarsky V, Bartholomew JC, Ames AB. (R)-alpha-lipoic acid-supplemented old rats have improved mitochondrial function, decreased oxidative damage, and increased metabolic rate. FASEB J. 1999 Feb;13(2):411-8.
- 12. Hagen TM, Wehr CM, Ames BN. Mitochondrial decay in aging. Reversal through supplementation of acetyl-L-carnitine and N-tent-butyl-alpha-phenyl-nitrone. Ann N Y Acad Sci. 1998 Nov 20:854:214-23.
- 13. Hagen TM, Ingersoll RT, Wehr CM, Lykkesfeldt J, Vinarsky V, Bartholomew JC, Song MH, Ames BN. Acetyl-L-carnitine fed to old rats partially restores mitochondrial function and arabulatory activity. Proc Natl Acad Sci U.S. 4, 1998 Aug 4:95(16):9562-6.
- 14 Khanna S, Atalay M, Laaksonen DE, Gul M, Roy S, Sen CK. Alpha-lipoic acid supplementation: tassue glutathione homeostasis at rest and after exercise.

 J. Appl Physiol. 1999 Apr. 86(4):1191-6.
- 15: Kocak G, Aktan F, Canbolat O, Ozogul C, Elbeg S, Yildizoglu-Ari N, Karasu
- C; ADIC Study Group—Antioxidants in Diabetes-Induced Complications. Alpha-lipoic acid treatment ameliorates metabolic parameters, blood pressure, vascular reactivity and morphology of vessels already damaged by streptozotocin-diabetes. Diabetes Nutr Metab. 2000 Dec;13(6):308-18.
- 16: Liu J, Head E, Gharib AM, Yuan W, Ingersoll RT, Hagen TM, Cotman CW, Ames BN. Memory loss in old rats is associated with brain mitochondrial decay and RNA/DNA oxidation; partial reversal by feeding acetyl-L-carnitine and/or R-alpha-lipoic acid. Proc Natl Acad Sci U S A, 2002 Feb 19;99(4):2356-61. Erratum in: Proc Natl Acad Sci U S A 2002 May 14;99(10):7184-5.
- 17: Liu J, Killilea DW, Ames BN. Age-associated mirochondrial oxidative decay: improvement of carnitine acetyltransferase substrate-binding affinity and activity in brain by feeding old rats acetyl-L- carnitine and/or R-alpha -lippic acid. Proc Natl Acad Sci USA. 2002 Feb 19;99 (4):1876-81. Erratum in: Proc Natl Acad Sci U S A 2002 May 14;99(10):7184.
- 18: Lykkesfeldt J, Hagen TM, Vinarsky V, Ames BN. Age-associated decline in ascorbic acid concentration, recycling, and biosynthesis in rat hepatocytes—reversal with (R)-alpha-lipoic acid supplementation. FASEB J. 1998 Sep;12(12):1183-9.
- 19: Podda M, Tritschler HJ, Ulrich H, Packer L. Alpha-lipoic acid supplementation prevents symptoms of vitamin E deficiency. Biochem Biophys Res Commun. 1994 Oct 14;204(1):98-104.
- 20: Suh JH, Shigeno ET, Morrow JD, Cox B, Rocha AE, Frei B, Hagen TM. Oxidative stress in the aging rat heart is reversed by dietary supplementation with (R)-(alpha)-lipoic acid. FASEB J. 2001 Mar;15(3):700-6.

R-ALA STEREOCHEMICAL SIGNIFICANCE

- 1: Adger B, Bes MT, Grogan G, McCague R, Pedragosa-Moreau S, Roberts SM, Villa R, Wan PW, Willetts AJ. The synthesis of (R)-(+)-lipoic acid using a monooxygenase-catalysed biotransformation as the key step. Bloorg Med Chem. 1997 Feb;5(2):253-61.
- 2: Biewengs GP, Dorstijn MA, Verhagen JV, Haenen GR, Bast A. Reduction of lipoic acid by lipoamide dehydrogenase. Biochem Pharmacol. 1996 Fab 9:51(3):233-8.
- 3: Bunik V, Shoubnikova A, Loeffelhardt S, Bisswanger H, Borbe HO, Follmann H. Using lipoate enantiomers and thioredoxin to study the mechanism of the 2-oxoacid-dependent dihydrolipoate production by the 2-oxoacid dehydrogenase complexes. FEBS Lan. 1995 Sep 4;371 (2):167-70.
- 4: Constantinescu A, Tritschler H, Packer L. alpha-Lipoic acid protects against hemolysis of human erythrocytes induced by peroxyl radicals. Biochem Mol Biol Int. 1994 Jul;33(4):669-79.

Insulow.com Page 8 of 8

- 5 Freisleben HJ, Neeb A, Lehr F, Ackermann H. Influence of selegiline and lipoic acid on the life expectancy of immunosuppressed mice. Arzneimitelforschung. 1997 Jun;47(6):776-80.
- 6: Haramaki N, Han D, Handelman GJ, Trischler HJ, Packer L. Cytosolic and mitochondrial systems for NADH- and NADPH-dependent reduction of alpha-lipoto acid. Free Radio Biol Med. 1997;22(3):535-42.
- 7: Loeffelhardt S, Borbe HO, Locher M, Bisswanger H. (n vivo incorporation of lipoic acid enantiomers and homologues in the pyruvate dehydrogenase complex from Escherichia coli. Blochim Blophys Acid. 1996 Sep 13;1297(1):90-8.
- 8: Loffelhardt S, Bonaventura C, Locher M, Borbe HO, Bisswanger H. Interaction of alpha-lipoic acid enantiomers and homologues with the enzyme components of the mammalian pyruvate dehydrogenase complex. Biachem Pharmacol. 1995 Aug 25;50(5):637-46.
- 9: Mattra I, Serbinova E, Tritschler HJ, Packer L. Stereospecific effects of R-lipoic acid on buthiorune sulfoximine-induced cataract formation in newborn rats. Biochem Biophys Res Commun. 1996 Apr 16;221(2):422-9.
- 10 Ochring R. Bisswanger H. Incorporation of the enantiomers of lipoic acid into the pyruvate dehydrogenase complex from Escherichia coli in vivo. Biol Chem Happe Seyler. 1992 Jun. 373(6):333-5.
- 11. Patel MS, Hong YS. Lipoic acid as an antioxidant. The role of dihydrolipoamide dehydrogenase. Methods Mol Biol. 1998;108:337-46. No abstract available.
- 12. Pick U, Haramaki N, Constantinescu A, Handelman GJ, Tritschler HJ, Packer L. Glutathione reductase and lipoamide dehydrogenase have opposite stereospecificities for alpha-lipoic acid enantiomers. Biochem Biophys Res Commun. 1995 Jan 17,206(2):724-30.
- 13: Saengstrisuwan V, Kinnick TR, Schmit MB, Henriksen EJ. Interactions of exercise training and lipoic acid on skeletal muscle glucose transport in obese Zucker rats. J Appl Physiol. 2001 Jul;91(1):145-53.
- 14: Schempp H, Ulnch H, Elstrer EF. Stereospecific reduction of R(+)-thioctic acid by porcine heart lipoamide dehydrogenase/diaphorase. Z Naturforsch [C], 1994 Sep-Oct;49(9-10):691-2
- 15: Streeper RS, Henriksen EJ, Jacob S, Hokama JY, Fogt DL, Tritschler HJ. Differential effects of lipox acid stereoisomers on glucose metabolism in insulin-resistant skeletal muscle. Am J Physiol. 1997 Jul;273(1 Pt 1): E185-91.
- 16: Sumathi R, Jayanthi S, Kalpanadevi V, Varalakshmi P. Effect of DL alpha-lippic acid on tissue lipid peroxidation and antioxidant systems in normal and glycollate treated rats. *Pharmacol Res.* 1993 May-Jun;27(4):309-18.
- 17: Tang LH, Auxentian E. Allosteric modulation of the NMDA receptor by dihydrolipoic and lipoic acid in rat cortical neurons in vitro. Neuron 1993 Nov;11(5):857-63
- 18. Zimmer G, Beikler TK, Schneider M, Ibel J, Tritschler H, Ulrich H. Dose/response curves of lipoic acid R-and S-forms in the working rat heart during reoxygenation; superiority of the R-enantiomer in enhancement of aortic flow. J Mol Cell Cardiol. 1995 Sep;27(9):1895-903.
- 19: Zimmer G, Mainka L, Ulrich H. ATP synthesis and ATPase activities in heart mitoplasts under influence of R- and S-enantiomers of lipoic acid. Methods Enzymol. 1995;251:332-40. No abstract available.

R-ALA. ACTIVATION OF GLUT4 AND EFFECTS ON GLYCAEMIA

- 1 Estrada DE, Ewart HS, Tsakiridis T, Volchuk A, Ramlal T, Tritschler H, Klip A, Stimulation of glucose uptake by the natural coenzyme alpha-lipote acid/thiocne acid: participation of elements of the insulin signaling pathway. Diabetes. 1996 Dec;45(12):1798-804.
- 2. Jacob S, Streeper RS, Fogt DL, Hokama JY, Tritschler HJ, Dietze GJ, Henriksen EJ. The antioxidant alpha-tipoic sold enhances insulinstimulated glucose metabolism in insulin-resistant rat skeletal muscle. *Diabetes*. 1996 Aug;45(8):1024-9
- 3. Khamaisi M, Rudich A, Been I, Pessler D, Finger M, Gavrilov V, Tritschler H, Bashan N. Metabolic effects of gamma-linolenic acid-alphalipoic acid conjugate in streptozotocin diabetic rats. Anhoxid Radox Signal. 1999 Winter, I(4): 523-35.
- 4: Khamaisi M, Potashnik R, Tirosh A, Demshchak E, Rudich A, Tritschler H, Wessel K, Bashan N, Lipoic acid reduces glycemia and increases muscle GLUT4 content in streptozotocin-diabetic rats. Metabolism. 1997 Jul;46(7):763-8.
- 5: Konrad D, Somwar R, Sweeney G, Yaworsky K, Hayashi M, Ramlal T, Klip A. The antihyperglycemic drug alpha-lipoic acid stimulates glucose uptake via both GLUT4 ranslocation and GLUT4 activation: potential role of p38 mitogen-activated protein kinase in GLUT4 activation, Diabetes, 2001 Jun;50(5):1464-71.
- 6: Maddux BA, See W, Lawrence JC Jr, Goldfine AL, Goldfine ID, Evans JL. Protection against oxidative stress-induced insulin resistance in rat L6 muscle cells by mirromolar concentrations of alpha-lipoic acid. Diabetes. 2001 Feb; 50(2):404-10.
- 7: Yaworsky K, Somwar R. Ramlal T, Tritschler HJ, Klip A. Engagement of the insulin-sensitive pathway in the stimulation of glucose transport by alpha-lipoic acid in 3T3-L1 adipocytes. *Diabetologia*. 2000 Mar;43(3):294-303.

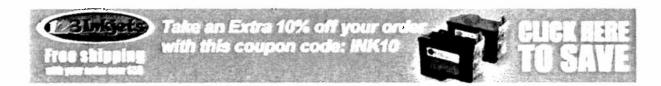
Insulow® is manufactured and distributed by Glucorell Inc. Orlando Florida 32828 1-866-INSULOW

EXHIBIT F

Home

LookSmart FIND ARTICLES | 10,000,000 Articles

Where To Look For What You Need."



Explore Publications in:

All Arts Autos Business Health Home & Garden News Reference Sports Technology

FIND

IN free and premium articles



Advanced Search

Ade by Google

Treat Diabetes Naturally High Blood Sugar can be controlled for about 80 cents/day. Here's how atthatmedicinals com

Diabetes Making Sense You Wake up Check Blood Have Pain in Feet Let Me Cure it For You www.diabeticwartor.com/

Type 2 Diabetes Cure? Find Out What Your Doctor Won't Tell You About Type 2 Diabetes

Treatment-For-Clabeles,info

Afternative Diabetes

Buy Cinnergen to Control Your Blood Sugar Levels Naturally, Guaranteed. Cinnergen convOlabetesMellius

Diabetes Information Info & Resource for Diabetics Facts, Articles, Supplies & More www DiabeticSeniors.com

Sugar stabilizers: learn to prevent diabetes naturally

Better Nutrition, August, 2005 by Frank Ervolino

Euckily, there's a lot you can do. First of all, many studies have found daily exercise an effective tool in preventing type 2 diabetes. While your weekend warnor ways can have a significant benefit--any exercise is better than none--adding just 10 minutes of activity 2-3 times a day will help even more. Walk your children to the playground, or take a stroll around the block during funch or after dinner.

Nutrition plays a large role in the prevention of diabetes. Avoid simple carbohydrates such as sodas, sugar, breads and pastas made from white flour and highly processed foods. Reach for more foods made with whole grains (see "Eat Smart: Grains & Cereals," p. 30).

Most Popular Articles in Health

- The best damn chest ...
- The sour truth about ...
- · Cocktails and ...
- Push-up intensity: ...
- Her cheating heart: ...

Most Popular Publications in Health

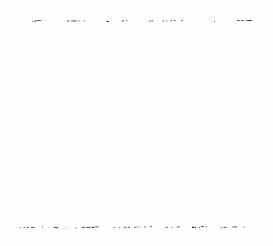
- Men's Fitness
- Nutrition Forum
- Shape
- Better Nutrition
- Journal of Abnormal ...

www.glycemicindex.com.)

A good tool to use when choosing foods is the glycemic index (GI), which describes the quality of carbohydrates in foods, specifically their effect on blood sugar. The index ranges from 0 (pure protein sources such as chicken breasts), to 100 (pure carbs such as glucose). The higher the ranking, the more sugar a food delivers to the bloodstream. Foods ranked lower than 55 are considered low-GI foods; 70+ are high-GI foods.

Whole grains are key because a healthful, low-GI diet that keeps your blood sugar stable is made up of foods such as oats, barley, whole wheat, and an abundance of fruits and vegetables (barring potatoes). A low-GI diet also includes good fats such as olive and canola oils, lean meats and low-fat dairy products. (For GI rankings of particular foods, visit

ADVERTISEMENT



Supplement-wise, exciting new choices are available to help prevent diabetes.

- * The most significant is R-lipoic acid, which actually helps transfer sugar, specifically glucose, into cells for use as energy--very important for diabetics. You may have heard of alpha-lipoic acid, which is a mixture of R- and S-lipoic acid. To be truly effective for diabetics, R-lipoic acid must work independently of S-lipoic acids. When looking for this supplement, if the label says "racemic mixture," then it's not pure R-lipoic acid. I recommend the Insulow brand.
- * Encapsulated cinnamon has also been shown to decrease insulin resistance, but you must use a water extract. Oil of cinnamon won't work.

COPYRIGHT 2005 PRIMEDIA Intertec, a PRIMEDIA Company. All Rights Reserved. COPYRIGHT 2005 Gale Group

1 - 2 - Next



PLAY NOW >

Diabetes Information

Info & Resource for Diabetics Facts, Anicles, Supplies & More www DiabeticSeniors com

Natural Diabetes Remedy

Our team has uncovered 7 Herbs that safely lower blood sugar, www.nsibaltimore.com/diabetes

Diabetes foods

Learn About Diabetes foods. We Help You Understand Diabetes. Understanding-Diabetes.com

Blood Sugar Scandal?

New Health Alert Exposes Cover-Up. Read What $\operatorname{Ors} \operatorname{-Aren't} \operatorname{Telling} \operatorname{Youl}$

HealthResources net

Ada by Google

Find Featured Titles for: Autos
CLICK TO VIEW

Find Research Guides for:

* CLICK TO VIEW *

EXHIBIT G

Welcome to Glucorell R. com



Read before you huy R+ ALA

FAQ

The Scientific Proof

What do the leading researchers have to say?

Retailer/ Practitioner Contact

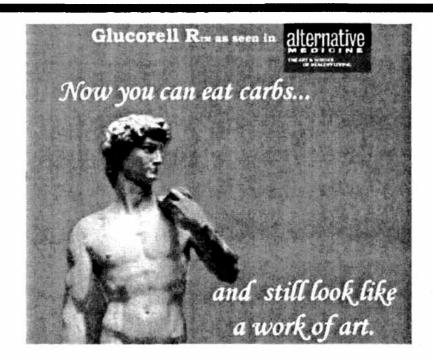
The Glucorell R
Online Store

Consumer Contact Us

Independent Analysis

An article for the science minded

Testimonial



Glucorell R[™] contains the most exciting supplement ever allowed into the United States. It's been used in Germany as a glucose uptake enhancer to help prevent and treat diabetes for over 20 years. Now you can use it to help you prevent carbohydrates from making you fat by disposing of them like you did when you were a child. Only doctors doing research were able to buy this supplement. Until now.

Glucose is what your body makes out of the carbohydrates you eat. Then your insulin shuttles that glucose around your body to the cells to use as food. Glucorell R™ makes your muscle cells accept several times more glucose than you do now. By causing the muscle cells to take up so much more glucose you are preventing it from going to the fat cells. That way you are helping to make your muscles stronger while preventing all that glucose from going to your fat cells. When your fat cells get the glucose it makes you fat and over time may eventually cause insulin resistance, leading to adult onset diabetes.

Glucorell R™, taken before carb meals, insures those carbs are disposed of properly into your muscles helping you to maintain healthy low insulin levels, which is a powerful aid in preventing you from getting fat or insulin resistant.

Keep cool or refrigerated.

Exhibit G, 1



Supplement improving glucose sensitivity and uptake for lower insulin levels. Clinically shown to reduce or eliminate fat gain from thiazolidinones like actos and avandia.

Glucorell R helps shuttle carbs into your muscle cells instead of into your fat cells by improving insulin sensitivity and glucose uptake. This improved utilization of glucose means that the carbs you eat are not stored as fat. Glucorell R is the multi-faceted anti-oxidant R+ alpha lipoic acid which is the pure and natural version of ALA. R+ alpha lipoic acid, also known a D Thioctic acid, has been shown to be an effective liver restorative and may help regenerate damaged liver cells. It has been shown to inhibit the transcription factor NF kappa which has been shown to activate cancer transcription. This means that R+ alpha lipoic may be an essential tool in preventing cancer proliferation. Recent research shows that biotin is an essential co-factor and complements the actions of R+ alpha lipoic acid with respect to glucose disposal and uptake.

EXHIBIT H

FAQ about Glucorell R



Home

FAQ

The Scientific Proof

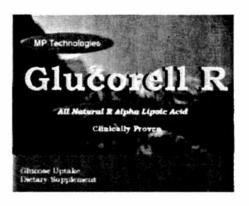
What do the leading researchers have to say?

Retailer/ Practitioner Contact

The Glucorell R
Online Store

Consumer Contact Us

An article for the science minded



Glucorell R™ makes your muscle cells take in much more glucose. Glucose is what your body makes out of the carbohydrates you eat. Then your insulin carries that glucose around your body to the cells to use as food. By making the muscle cells use up the carbs first you are keeping them from going to the fat cells where they get stored as fat.

When you give a bowl of ice cream to a 2 year and they eat it, in about 30 minutes they are bouncing off the walls. If you give that same bowl of ice cream to a 40 year old they go lay on the couch. Glucorell R™ gives you back the natural R-ALA you had back when you were a child.

What is Glucorell R?

Glucorell R is the pure and natural isomer of Alpha Lipoic Acid.

What will it do for me?

While it has many properties, the one that people find most interesting is its ability to keep sugars from making you fat. How does it do this?

First it acts as a glucose disposal agent. It actually increases the amount of carbohydrates taken up by muscle cells.

Second it improves insulin sensitivity allowing for larger amounts of carbohydrates to be shuttled into muscle cells. Third it lowers plasma insulin which decreases the amount of carbohydrates and fats ingested from being stored as adipose tissue (FAT). It is more effective with carbs, so a low fat diet is preferable for best results. This also helps prevent diabetes.

So what does all this mean to me?

Exhibit H, 1

What this means is that Glucorell-R will allow you to eat more carbohydrates with less worries about fat gain. It also means that when dieting carbohydrates will have less impact on results. Most users, especially those over 30 and those with carb cravings, will find that they can lose weight with little or no change to their diet.

How is this different from ALA?

With normal ALA, half of it is the S isomer which counteracts most of the benefits of the R isomer. The biggest difference is that with normal ALA there is no change in plasma insulin which is the most important factor in fat loss and avoiding fat gain.

How is Glucorell R different from the "carb-blockers" that are being advertised?

Glucorell-R allows you to eat more carbs without them turning into fat. But instead of flushing them out of your body with otherv aluable nutrients which is what carb blockers do, they shuttle that fuel into your muscle cells

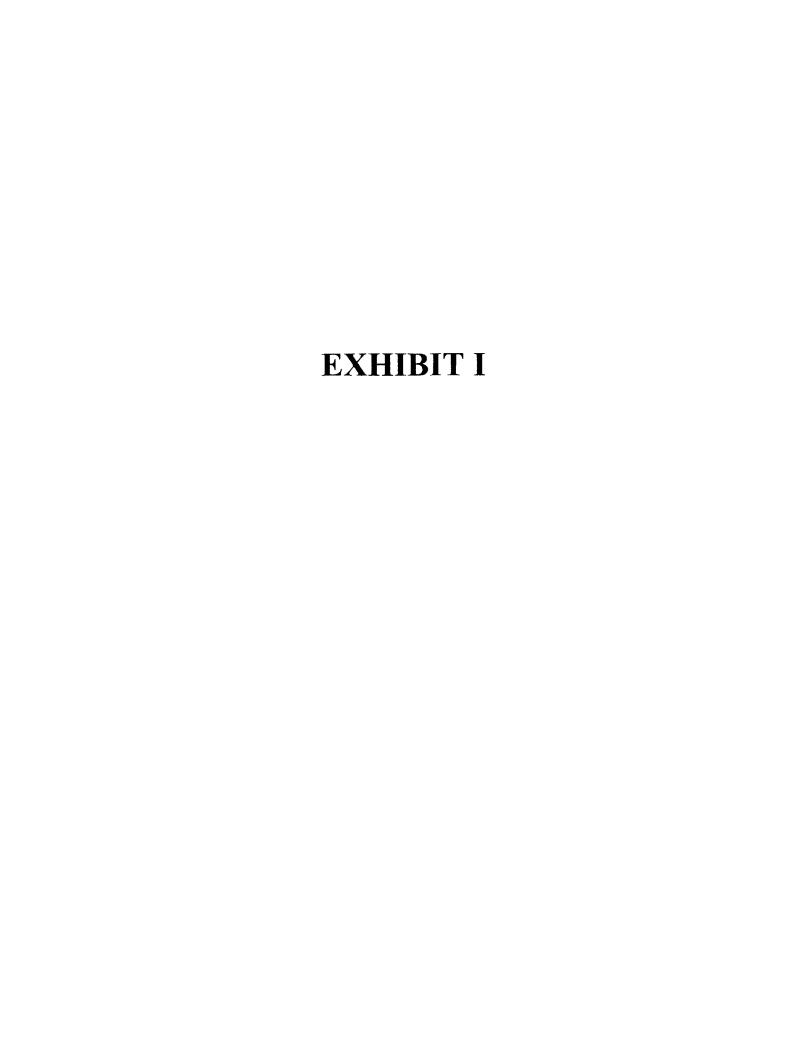
giving you greater amounts of "fuel" to get through the day. Glucorell-R also improves digestion and use of nutrients. Carb blockers, on the other hand, interfere with digestion and can cause bloating and gas.

Are there any other special benefits of Glucorell R?

With people that are over 40 the results are often much better. At this age most people have become pretty insulin resistant. In this aspect it will be much more beneficial to older consumers. There is also a considerable amount of evidence that Glucorell R enhances the recovery of the brain by removing iron buid up, and may even reverse free radical damage there. One over 40 user wrote that his chess scores improved by a full 10% after only 2 weeks use.

Contains: 120 capsules 100mg per capsule R-Lipoic Acid 500mcg per capsule Biotin

Gelatin Capsules.



Testimonial

Home

FAQ

The Scientific Proof

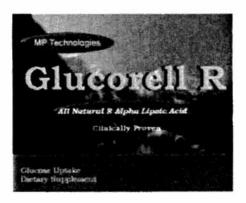
What do the leading researchers have to say?

Retailer/ Practitioner Contact

The Glucorell R
Online Store

Consumer Contact Us

An article for the science minded



I can't rave enough about Glucorell-R. It is, by far, one of the best products I have ever bought.

I recommended it to my friend Laura, and she also bought Glucorell-R from your company. I asked Laura what she thinks of the product, and she left me a voicemail also highly raving about it, saying her pants fit looser and she doesn't bloat after meals anymore. I saved her voicemail if you'd like to hear it. WE LOVE THIS STUFF!

Seriously, this is an outstanding, amazing product. Unfortunately, not enough people in the general public know about it.

I tried the "test" that someone on Elite Fitness recommended, which was to take a bunch of Glucorell-R on an empty stomach and to have a candy bar nearby. Within about 30 minutes, I felt hypoglycemic. I was shaking and ready to pass out. Of course, I don't recommend that test to anyone, but I just had to see for myself.

Glucorell-R really and seriously works! It's great that you guys add biotin to it, so the customer doesn't have to fuss with a separate biotin supplement.

A little about my medical history... My grandmother and her sister died from diabetes complications, and her niece (my cousin) died last August from being a diabetic who went fully blind, was on dialysis, and had a leg amputated. So I'm not your typical customer who just wants to cut down on glucose. I HAVE TO, since blood sugar problems run rampant in my family.

Exhibit I, 1

Before taking Glucorell-R, I had severe pre-diabetic symptoms, such as tingling feet and constant urination and thirst after eating sugar or carbs. Glucorell-R has completely solved that problem. My body feels normal again, and I don't have ANY insulin swings - even after eating cheese fries at Outback Steakhouse!

Your product is perfect, and it would benefit SO many people if they only knew about it. So many people are doing Atkins and loading up on greasy meat and fats like sour cream and mayonnaise to satisfy their palate since they have to be so anal about eating carbs. And carb substitute products just suck - I've tried them all. Glucorell-R really is like Atkins minus the diet.

I think you should do an infomercial or a commercial for your product, or at least some direct marketing of it. I could get hundreds of people to buy it, based on my own excitement about it. Hopefully the FDA won't ban it, for fear it will compete with pharmaceutical diabetes drugs.

Anyway, never stop making Glucorell-R. It's wonderful!

P.S. Feel free to use any part of this e-mail (minus my full name or my friend's) as a testimonial.

Sincerely, Tara

EXHIBIT J

Guest's Shopping Cart

checkout >>

..is empty!

THE AFSTORE Uniquely Formulated Supplements

Home About Contact			Log In Create an Acc
Quick Login	Health Supplements >> Glucorell R		
Login: Password: login <register here=""></register>	Glucorell R is the first and largest supplier of R+	Glucorell R Glucore	ll R
<forgot password=""> Shop by Manufacturer Search by clicking on Categories below Callpers and Scales Clothing e-Book Fat Burning Products Health Supplements Mood Enhancement Lotions Product Combo's Protein & CEE Yohlmburn Products</forgot>	Lipoic Acid in the United States. Glucorell R uses R Lipoic Acid (RLA) complexed with Biotin. RLA is the pure, potent and natural version of the anti-oxident Alpha Lipoic Acid. Glucorell R helps shuttle carbohydrates into your muscle cells instead of your fat cells by increasing insulin sensitivity and	to see discount price	Add to Cart
Use a single keyword to find what you're looking for or just enter in the part # or close to it Add a Quickie! Enter the ID of the product you wish to add to your shopping cart.		\$ 39.95\$ 24.95 AvoPharm No File	Quantity, J.

the uptake of glucose. This improvement in carb utilization in people with insulin resistance means that carbs and sugars are less likely to be stored as fat and will be stored more efficiently as

Exhibit J, 1

muscle gylcogen. RLA may inhibit the formation and differentiation of new fat cells. RLA has been shown to inhibit the transcription factor NF kappa B which has been shown to activate cancer transcription. This means that RLA is an essential tool in preventing cancer. RLA has been shown to enhance liver function, protect the liver and to help regenerate damaged liver cells. Recent research shows that biotin is an essential cofactor to RLA and works synergistically with respect to carb disposal and uptake.* Never use a lipoic acid without biotin. Lipoic acid affects your supply of essential B vitamin Biotin. Keep cool or refrigerated.

CONTAINS

Exhibit J, 2

120
CAPSULES.
PURE (R+)
LIPOIC ACID
100MG 750
MCG BIOTIN
PER CAPSULE
Gelatin
Capsules.

Available in a 12 pack buy 10 get two free.

The last person to order this also ordered the following

- Glucorell R
- Levorex 180ct
- SesaPure

Powered by Anafit Systems

March 14, 2008

TERMS AND CONDITIONS for website and returns