FINAL TRANSCRIPT

CCBN StreetEvents℠

Event Transcript

PROH.OB - CCBN Virtual Healthcare Conference: Co-sponsored by Lippert/Heilshorn & Associates and RedChip Partners

Event Date/Time: Dec. 10. 2002 4:45PM ET

CORPORATE PARTICIPANTS

Peter Hall
CCBN - Senior Vice President

James Czirr
Pro-Pharmaceuticals - Board Member

PRESENTATION

Peter Hall - *CCBN - Senior Vice President*

Welcome to the CCBN virtual healthcare conference co-sponsored by RedChip Partners and Lippert/Heilshorn & Associates. My name is Peter Hall, and I'm a Senior Vice President here at CCBN, and I'll be serving as your moderator for this portion of our virtual healthcare conference. I'd like to remind our listening audience that they may submit questions via the Web at any time by simply typing your query into the question field that is located in the lower left hand side of the Webcast player. I will present these questions during the Q&A at the end of the company's prepared remarks. Should we have more question than time allows, please be advised that we will forward all of these questions directly on to company management who will respond to each one of these directly.

The following presentation will be made by Pro-Pharmaceuticals, ticker symbol proh.ob. Pro-Pharmaceuticals will be discussing their patented protected carbozome (ph) technology platform that is designed to glyco-upgrade delivery of multiple chemotherapy drugs to tumors with greater cancer killing effectiveness and without traditional toxic side affects. Carbozome (ph) technology can be coupled with dozens of existing cancer drugs with each patent protected combinations potential annual sales being estimated in excess of $300 million. Pro-Pharmaceuticals platform technology shortens both the timeline and cost of obtaining an FDA IND to test the glyco-upgraded drugs on humans. With us today representing Pro-Pharmaceuticals is James Czirr. Mr. Czirr is a member of the Board of Directors. Mr. Czirr, you may begin your presentation at this time.

James Czirr - *Pro-Pharmaceuticals - Board Member*

Thank you. Our mission at Pro-Pharmaceuticals is to be a research leader in developing glycoscience-delivered oncology drugs. And we have assembled a very talented and respected group of people that have tremendous expertise in carbohydrate chemistry. Both decades of experience in these same people have demonstrated leadership at the, at the top on the world stage and have dedicated themselves to their professions. Our Board of Directors is made up of the following people: Dr. David Platt is my partner and co-founder of the company. David has experience managing another biotech company from inception until it reached the half a billion dollar market cap and went from a pink sheet stock at 62 cents until over a four-year period of time. It was traded on the national market system at a price of 29 and five eighths and volume as high as 600,000 shares a day.

If we just highlight a few people, I'd like to spend a moment on Dr. Mildred Christian. Dr. Christian is a world renowned toxicologist. She has her own company and has had oversight authority at five laboratories for Charles Rivers Corporation that do nothing but FDA regulatory testing. She claims that they do work for the 100 largest drug companies and roughly 35 percent of the others. Dr. Christian in her 30 some years of experience has never taken a stock position in one of her client companies or should I say never purchased stock in the client company. And we feel very honored that she likes our technology enough to do so. Let's move on to senior management since time is of the essence.

I'd like to highlight Anatole Klyosov, the third gentleman on the list here (ph), our Chief Scientist. Anatole's background is that he won the gold medal for science in the Soviet Union when he was 29. He's been a professor of biochemistry at Harvard, has published 300 plus articles in peer review journals and serves on numerous peer review journals boards. He and Dr. David Platt are the co-founder - or the co-developers of our patented technology. Maureen Foley has a lot of experience as a Chief Operating Officer. Sheila Jayaraj has been previously with Morgan Stanley's private client group and prior to that, was an audit manager for Union Carbide. Ellie Zolmer's (ph) a very accomplished engineer when it comes to developing production techniques and is responsible for the fact that we now have 17,000 vials of our drug sitting in storage waiting to start her clinical trials here very soon.

As far as the scientific advisory board, I would like to showcase one person here who's third from the bottom, Irwin Joseph Goldstein. Dr. Goldstein is a winner of the Hudson Award, which is a very prestigious award reserved strictly for carbohydrate chemists. Some say it's harder to win than a Nobel Prize. Now Dr. Goldstein has been very helpful to us. All of his research has been around carbohydrates and their interactions with lectin proteins. It so happens that our material is a carbohydrate. And the receptor site that we've identified that is found on all solid tumors and not present in other places in the human body happens to be a lectin protein. Dr. Goldstein has been the Dean of Medical Research at the University of

Michigan Medical School. And he's currently a professor of biochemistry there.

Now let's talk about the market for cancer drugs. You know, our research indicates that any company that has a patented cancer drug with any kind of market at all sports (ph) a billion dollar plus market cap in U.S. dollars. We're looking at chemotherapy drugs as a very lucrative section of the marketplace. You know, frequently as little as 100 milligrams will sell for $2,000. We're expecting that we'll capture between three and $400 million in sales with anyone of the major cancer therapy drugs that were currently on the market that we're in the process of upgrading. If we look at the problems and opportunities in the marketplace, the most widely used drugs in the market today are drugs like adriamyicin, taxol, fluorouracil which is also known as 5FU, cytoxan, cisplatin, all of which are very toxic.

You know, they are effective cancer killing agents, but their toxicity causes patients to suffer from a low quality of life when on the drugs. The toxicity limits their performance because they can only take them for a certain period of time. Which means that the majority of people taking them don't in fact receive a cure. Roughly 10 percent of the 5FU patients, you know, reach that cure stage. So what we're in the business of doing is glyco-upgrading drugs. And we refer to drugs using our trademark drug delivery platforms as glyco-upgraded drugs, which improves both delivery and toxicity. Now we do this with two novel drug delivery platforms. The first one we call UCLT, which stands for uniform carbohydrate linker technology. And the second one we refer to as carbozomes (ph), which is an encapsulation in targeting methodology.

If we look at the diagram here for UCLT, the yellow sphere represents the drug. The red sphere represents our recognition molecule that is designed to bind itself to this unique lectin protein that's found on every solid tumor. The rest of the molecules in between are our linking capability. If we take a look at the carbozome (ph) model, in here inside this blue sphere which would be our davanat molecule, inside is green sphere that would represent the drug molecule that's being encapsulated and targeted. The red sphere would represent our recognition molecule that again, searches out and binds to the receptor site found on cancer cells. The glyco-upgraded program that we are starting with utilizes five fluorouracil, also known as 5FU, adriamyicin, taxol, cytoxan and cisplatin.

Now these are all five widely established and utilized drugs. Five fluorouracil is a first line drug with colorectal cancer. Taxol is, you know, the best breast cancer drug in the world today. All five of these have one distinguishing characteristic in that they're generic drugs. And what this means to us at Pro-Pharmaceuticals is when we put one of these generic drugs inside of our carbozome (ph) or connect it with our UCLT linker, the resulting chemical structure is a patent protectable item that we can use to take and go back to the market. So we want to look at some milestones of the company. We've been in business for 30 months since inception when we were just an idea. Since then, we've had positive results in combination with our 5FU and our carbozome (ph) molecule for colorectal cancer.

We have an approved IND (ph) for the 5FU combination. We have a phase one, slash two clinical trial which is to begin in weeks. We've had a synthesisical (ph) glactomyicin (ph) using UCLT. Glactomyicin (ph) is a name that we've given to a compound that is using the UCLT technology to combine our recognition molecule to an adriamyicin or doxorubicin drug molecule. We have a pre-clinical trial for breast cancer and lymphocyte leukemia. And we have as well (ph) another carbozome (ph) for delivery of taxol. Looking over at some results that we've had, that we've submitted to the FDA for the IND (ph) on the 5FU combination, we've highlighted a few of the studies here.

And if we look on the left side of the screen underneath decreasing toxicity, we look at two different charts. The top chart was an LD50 experiment where we have dosed animals with the quantity of 5FU that was calculated to kill 50 percent of the animals in the study. In fact, it killed 65 percent. If you look underneath the 5FU alone line at the davanat one, which is the name of our improved 5FU or upgraded 5FU, you see that no animals died with the same doses of 5FU inside of the davanat and no signs of toxicity. If we look at second study, we dosed animals with three times lethal dose levels, you can see that during the period of the experiment, 80 percent of the animals receiving 5FU alone died. None of the animals that have received davanat have died. Switching our focus over to the right hand side of the screen, looking at the efficacy study, this study was done by SRI, Incorporated. And in this study, they extracted a colorectal cancer tumor cells that were resistant to 5FU out of a human cell line. And they incubated tumors until they were a size of 110 milligrams.

I'll apologize for the limitation of a dotted line there moving up and down showing 110 milligram in size. It's not positioned quite properly. But to finish the story, the control animals in 28 days saw their tumors grow by roughly 12 fold in size. Animals that were retreated with 5FU saw their tumors appreciate approximately 500 percent in size. And the animals that were retreated with davanat saw a 30 milligram or roughly a 25

percent increase in size on average with some of the animals seeing total remission of their tumor. If we look at the oncology market today, we're looking at a market that has disproportionately less dollars spent than other diseases. The current therapies are less effective than in any other diseases.

Patients spend less time in therapy. Because of it, patients die and the drugs are just so toxic. Also there's few effective new drugs that have entered the market recently, and the result is that there's more sales to generics which is resulting in lower average sale prices, which is bad for the industry. The opportunity that we have is that, you know, the FDA has shortened approval time for cancer treatments and which result in reduced times to market. If we look at the average new therapy, the cost per patient per year is roughly nine to $12,000. Regarding being more effective, less toxic therapies would result in longer lives and could turn cancer into a disease that was more like blood pressure or a high cholesterol situation where it was a chronic treatment and people lived with it. We have an aging population which is causing greater incidents of cancer.

If we look at - continue looking at our business strategy, we are developing multiple patents in very large markets. We've concentrated on those five drugs that we talked about earlier because, depending upon whose estimates you use, there are roughly 2 million to three and-a-half patients per year that use those drugs. Each time we encapsulate or link a recognition molecule to one of those drugs, it qualifies as a new patentable entity. So before it's over, we intend to build a large drug portfolio protected by patents. And of course, this encompasses, not just - you know, it encompasses pre-existing FDA approved anti-cancer drugs which means that we'll have a shortened approval process. And our intention right now is to license to pharmaceuticals for manufacturing and distribution. Now if we look at the reduced time to market that is made available by our platform, we have potential to skip stages of development. We expect there's a good possibility that results will be such that will be allowed to combine phases two and three. That remains to be seen. But we're hopeful. There's always fast tracking if you can demonstrate tumor shrinkage early.

We're dealing with colorectal tumors to start with. People in there are dealing with failed patients. When a patient has failed 5FU therapy and other therapies with colorectal cancer, they typically have 60 to 90 days to live. And so, we're optimistic that if we can extend people's lives four, five and six months during our phase one trials, that there'll be opportunity to accelerate the trial process. We also consider the fact that we're reformulating existing therapies. And this reduces a product development time and risk in several ways. If we look at the timelines of the typical drug development, companies go through, you know, maybe as many as a couple hundred thousand compounds looking for a biologically active compound. We're starting, not just with a biologically active compound that has a one in 10 chance of making it from IND (ph) to drug. But we're starting with proven drugs that are known to be effective in humans on cancer.

Then if you consider how that affects our risk, all of our studies have been comparing 5FU alone and 5FU improved by our delivery molecules. Since we're not dealing with a yes, no decision, will it or will it not work in humans as a killing agent, we know the 5FU given getting inside a tumor is going to cause damage to the tumor. So whether or not you subscribe to a 20 percent improvement in probability or a 100 percent improvement in probability, it's all irrelevant. We're going to end up proving it in human trials here soon, and we'll find out how it works. As far as manufacturing sites, there are numerous manufacturers of the generic drugs. We're sitting here right now with 17,000 doses. All of these are going to result in a reduced risk for additional dilutive financing for our company because we have a short timeline to phase two results where we hope to do a joint venture of some sort.

If we want to start comparing or use a net present value model for new drugs as some sort of comparison to try to amplify this benefit that we have, the average oncology drug entering the clinical trial process has approximately a $50 million net present value according to some data we pulled from Lehman Brothers fast tracked at 57 million. Now, you know, these are based on probabilities that are based on historical chances of continuation of the drug and passage of various stages of development and getting into the actual sales process with a maximum of 500 million in sales. Now, you know, we're looking at a situation that we could theoretically be selling drug in four years instead of seven. If you were to add $100 million of sales to year four or year five, obviously that changes that present value numbers radically. This is also based on a 10 percent probability of success. And if you were to even give our improved mechanism only a 20 percent probability of success, that present value would be adjusted accordingly.

So as we look at our advantages, existing therapy reduces the risk, reduced development time to market, improves the net present value calculations and most importantly, this is a repeatable process. We have the ability of doing this multiple times and have already demonstrated and already have the process started for taxol and for adriamyicin. So if you want to look at the primitive (ph) summary of the benefits of what we're doing here, we're looking in the upper left hand corner of our pie

chart. We're starting with an existing drug market. We have users of 5FU. And again, depending upon whose numbers you believe, 350,000 to 600, 700,000 users if you count the prophylactic uses. You know, this is for a drug that is said to have a 10 percent cure rate, a 40 percent response rate and one out of two patients suffering some hematological toxicity problems. We believe it's going to be - it'd be an easy marketing job to be able to transfer those patients that are using existing 5FU to a reformulated version that had lower toxicity and higher efficacy.

As we go around the pie chart to the right, we mention new patents. Generic drugs sell at very low prices. Patented product that has a benefit, obviously we can increase the sales price which would increase profitability. We go around the chart even further reduce toxicity would allow us to increase the patient population as it'd be tried on more uses. And since this receptor molecule or recognition molecule that we use to identify the receptor is attaching itself to a receptor found, possibly a 5FU could find its way into additional treatments. If we jump over to the left side and look at increased efficacy, we're looking at the potential for longer regiments of dosing as a consequence of the improved efficacy and reduced toxicity. So instead of 24 doses in six cycles in a regiment, perhaps it could be 48 doses, which again, would improve the profitability for the drug. All this means increased market share.

And in closing, I'm asking you to take a look at the taxol numbers. We mentioned 300 million as a target for each one of the five drugs that we're looking at upgrading. In year 2000, taxol was $1.6 billion when it was a protected product and very toxic and could be improved from that number there, you know, higher if toxicity and efficacy wee great enough. I'd like to invite anybody that wants to to visit our Web page at www.pro-pharmaceuticals.com. We have a number of videos that are short, two, three minute videos that help explain the UCLT and the carbozome (ph) technology in greater detail. And with that, I'd like to open the floor for questions.

QUESTIONS AND ANSWERS

Peter Hall - *CCBN - Senior Vice President*

Thank you, Mr. Czirr. We do have several questions. And I want to remind our listening audience that again, to submit a question, simply go to the query section in the lower left hand corner of your Webcast player. First question, Jim, comes and it states could the Pro-Pharmaceuticals platform technology be used in other drugs besides cancer drugs? And if so, why did the company start with what's down here as 5FU?

James Czirr - *Pro-Pharmaceuticals - Board Member*

OK. Well, the answer to that is that at inception when we first sat down to form the company, and Dr. Klyosov and Dr. Platt were explaining their theory, the theory was that we could improve any drug's ability to cross the cell membrane of a target cell. And so the answer is yes, we could. What is -- the reason we're focusing on 5FU and on cancer in general is that we don't have to improve the efficacy of the drug in order to be approved. If we improve the toxicity enough, that should be grounds for an approval. The reason we chose 5FU out of all the other cancer drugs that we could do this with is that 5FU is a lead drug for colorectal cancer. And colorectal cancer patients represented, in our mind, an excellent opportunity for fast tracking clinical trial because the tumors were readily observable and because colorectal patients that had failed therapy had such short life expectancies. It's (ph) we felt we had more opportunity to demonstrate an improvement in efficacy as well as toxicity in that environment.

Peter Hall - *CCBN - Senior Vice President*

Jim, the next question asks the following. Could the carbozome (ph) or UCLT technology work with branded drugs? And if so, would Pro-Pharmaceuticals consider licensing or joint venturing their platform technology with another drug company to improve a drug that is currently in development?

James Czirr - *Pro-Pharmaceuticals - Board Member*

Well, it could be used with other drugs, not universally. But if a drug is a glycoconjugate, there is a very strong possibility that it could be adapted (ph). Now we're - the current technology that we've developed has a recognition molecule that's designed to bind to the receptor site that's found on every solid tumor and nowhere else in the body. So obviously we would have to go to work and develop a different recognition molecule to be able to treat another disease state (ph). As far as licensing, that's an interesting question because in the conversations that we've had with a number of drug companies, that has come up on a regular basis.

It appears as though there are quite a few compounds that are on the shelf right now that show efficacy against cancer in test tubes, but have horrible toxicity. Whether we would do a deal

or whether we would agree to some sort of licensing terms or some sort of royalty agreement or joint development agreement would depend upon the available opportunities at the time that that offer presented itself and which one would build better shareholder value. If the, if the royalty was high enough and the fees for development were high enough, there's a very good chance we would, we would do something like that.

Peter Hall - *CCBN - Senior Vice President*

OK. Next question has to do with studies. Well, I'll read it exactly. It says my question has to do with the probability of success in human testing. I hear the comment that animal studies don't correlate to human studies. You mentioned that Pro-Pharmaceuticals platform had higher probability of success than traditional drug development. Could you elaborate on that?

James Czirr - *Pro-Pharmaceuticals - Board Member*

OK. Yes (ph).

Peter Hall - *CCBN - Senior Vice President*

Animal testing versus human testing.

James Czirr - *Pro-Pharmaceuticals - Board Member*

Yes. You know, as you know, all animal - all drug compounds, in order to get an IND (ph) have to go through a battery of different animal testing for toxicity to demonstrate both efficacy and toxicity for the FDA before you're allowed to go forward on human testing. You hear a lot in the business that people will say that animal studies - human studies don't correlate with animal studies. And this is an interesting phenomena because the fact is that less than 10 percent of the compound that show efficacy in a test tube work as drugs. In one of the conversations that I had with Dr. Christian on our advisory board, she explained to me that if a cancer - if a material will kill cancer in a test tube, then you know it killed cancer. And if you analyzed the various reasons that it doesn't become a drug, it can almost always be summarized and brought back to the issue of delivery. And so, that is a historical problem.

Now our molecule by design is designed to bind - to go to and bind to a recognition molecule or molecule that's found on the surface of cancer cells. And we have radioisotope labeling studies that indicate that our material actually gets into the tumor. I mean, liposomes are considered a delivery molecule, but they will release their drug load in the body hopefully nearer a tumor and thereby increase the probability that the drug binds to the tumor. Where we have evidence that we actually get inside the molecule. So we're - we have a stronger indication that - we think a stronger indication that we're going to be successful in the clinic. And then when you take and consider that we're not just testing a new compound, we're testing improved delivery of an existing compound which has already been on the market for many, many years, long enough to lose patent protection. And it's still a first line drug for the treatment of colorectal cancer. We think that that animal - that they do correlate much more so than the traditional animal models.

Peter Hall - *CCBN - Senior Vice President*

Jim, I think we're just about out of time now. We do have perhaps time for some concluding comments or summary points should you choose to do so. And why don't you go ahead?

James Czirr - *Pro-Pharmaceuticals - Board Member*

Well, the - OK, thank you. The summary points I'd like the audience to stay with is that this particular technology we have is capable of binding or encapsulating to a whole host of anti-cancer agents. If you go to our Web site, our scientists have listed there 77 drugs that are glycoconjugates, all of which appear to have the right kind of chemistry to fit inside our delivery molecule. Again, we're just concentrating on all 77. These are generic. They are all capable of being repatented or at least of getting new patents on the combination of our carbozome (ph) technology with the existing drug.

So we have - in the world of drug development, I'm told companies - Dr. Christian tells me when she was at Johnson and Johnson if they did two IND's (ph) a year, it was good. We're sitting here as an early stage company with a platform technology that we could very easily have three or four IND's (ph) in the next 12 months and could repeat that process over and over again. And with each one of them having a much higher probability of success. And when we finish, and when we do get a drug approval, each one of them has an existing ready made market that we can go to and just switch out with a new, improved version of the same thing they're already using. Those are the point's I'd like the audience to focus on.

Peter Hall - *CCBN - Senior Vice President*

Jim, thank you very much. Thanks for your presentation.

James Czirr - *Pro-Pharmaceuticals - Board Member*

Thank you.

Peter Hall - *CCBN - Senior Vice President*

And thanks to our Web based listening audience. At this time, I'd like to remind our audience, to listen to the next Webcast, please close your media player and return to the agenda page. That may be accessed at www.ccbn.com, www.redchip.com or wwwlhi.com. And when there, click on the agenda page, the appropriate link. Thank you very much.