

An Immune Boost against Neuroblastoma—

Common Food Extract Potentially Effective

For centuries, ancient cultures have utilized the innate healing power of botanicals. Now 21st century researchers are unraveling their mystery, proving the far-reaching potency of a common dietary compound called beta-glucan.

Dr. Nai-Kong Cheung, head of the Neuroblastoma Program at Memorial Sloan-Kettering Cancer Center and a Hope Street Kids-funded researcher, is leading this critical investigation. “In some countries, glucan is used as a chemotherapy for cancer. But how it works has never been fully understood,” he says. “We asked ourselves why is it effective? And what we have discovered is exciting.”

Glucans were previously shown to stimulate the immune system to fight some cancer cells. It seems especially effective against cancers where there is ongoing host immunity. Cheung theorized that glucan might work more effectively if it were used in conjunction with existing antibody treatments. While antibody therapy has produced a response, its full potential has not been fully realized.

Cheung believed that glucan might energize the

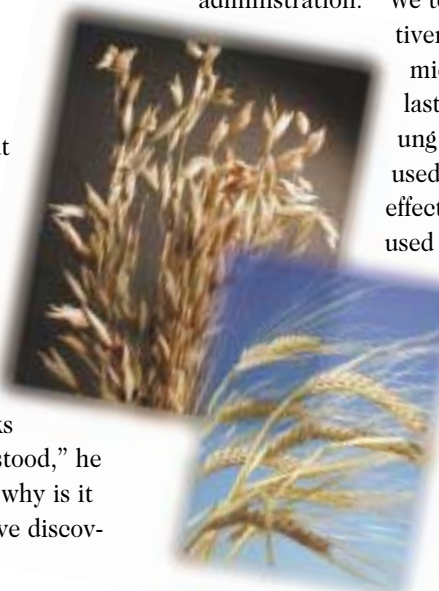
body’s white cells — a hypothesis that has since been proven at the bench — and is now being tested at the bedside.

In animal studies Cheung used purified glucan taken from barley and oats for oral administration. “We tested their effectiveness in laboratory mice carrying neuroblastoma tumors,” Cheung explains. “When used alone it was not effective. But when we used it along with the anti-GD2 monoclonal antibody 3F8, tumor growth was nearly totally suppressed.”

Cheung believes that when the glucan molecule arrives at certain parts of the gastrointestinal tract, it attaches to “receptor cells,” activating them to release cancer-fighting leukocytes to attack the tumor. This action, however, is dependent on the antibodies that lay down certain proteins on the surface of tumor cells.

“They are natural cancer-fighting companions,” says Cheung. “Glucan does not appear to be toxic and is effective when given by mouth in these animal studies.”

Today, Cheung is conducting a clinical trial of the combination therapy on children with neuroblastoma. “The results of this



Congresswoman Pryce, Hope Street Kids Founder, visits with Hope Street Kids Researcher Dr. Nai-Kong Cheung at Memorial Sloan-Kettering Cancer Center, New York City.

Ordinary gluten from oats and barley may prove a perfect cancer-fighting companion to monoclonal antibodies.



“Musaics— A Community Collaboration”

The Third Annual “Children for Children” to benefit Hope Street Kids was held on Saturday, March 1, 2003 at Capital University’s Mees Hall, Columbus, Ohio. The event featured Columbus’ most talented young performers who give of their time and talents to raise \$100,000 to help fight childhood cancer.

“Musaics— A Community Collaboration” — featured the Columbus Children’s Choir and many other talented local musicians, actors and artists including the Arts Impact Middle School Steel Drum Band, Ballet Met Youth Met! and the Gahanna Fiddlers. Art by local children’s organizations was also displayed. Special guests included Mayor Michael Coleman and emcee Chuck Gillespie of News Center on ABC-6 & FOX-28.

Dr. Sandra Mathias, Artistic Director of the Columbus Children’s Choir, said, “The Children for Children project is a way for talented young artists in central Ohio to develop a sense of stewardship.” Children also take part in the “Children for Children Makes Cents” penny collection program in schools throughout the state.

For information about supporting next year’s event, please call Robin Stock at 614-228-4820.



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A Walk in the Park for Pediatric Cancer Research

Each year New York City teenagers from 10 different private schools come together in a community effort to raise funds for pediatric cancer research. On Saturday, May 10, 2003, the Third Annual “Kids Walk for Kids With Cancer” took place in New York City’s Central Park in support of pediatric cancer research.

This year’s tremendous effort was organized solely by students from Packer Collegiate, Trinity, Spence, Calhoun, Stuyvesant, Collegiate, St. Ann’s, LaGuardia Performing Arts, Berkeley-Carroll and Dalton. “It is an inspiring experience to watch young teens from so many different schools come together and raise an astounding amount of money for kids with cancer. It gives us all hope for the future,” said a mother of a young cancer patient who attended the five mile walk.

The event began as a home-room community service project three years ago and has been transformed into an extraordinary community effort attracting students of all ages, teachers, parents and childhood cancer patients and friends.

Organizers hope to match last year’s fund-raising total of \$56,000. Proceeds from the walk will enable Hope Street Kids to award a grant to Memorial Sloan-Kettering Cancer Center in New York City for the continuation of studies in innovative treatments for pediatric cancer — research with the potential to save the lives of thousands of children touched by this disease.



Young teen organizers gather for the Walk for Kids with Cancer.



Dr. Sandy Mathias, Artistic Director Columbus Children’s Choir, with choir members and cancer patient Delaney Diggs.

Mark Your Calendar

The Fourth Annual “Swinging for Caroline” Golf and Tennis Invitational

Monday, June 9, 2003

Lansdowne Resort
Leesburg, Virginia

A Evening at the Columbus Zoo

August 23, 2003

Columbus Zoo and Aquarium
Columbus, Ohio

Conquer Kids’ Cancer Gold Ribbon Days and Rally

September 17-19, 2003

Capitol Hill
Washington, D.C.

For more information, contact Cynthia Duncan at 1-800-227-2732 or Robin Stock at 614-228-4820

Children Spread Holiday Cheer at Columbus Children’s Hospital

Columbus Children’s Choir members spent an afternoon during the 2002 holiday season to spread some cheer at the hematology/oncology floor at Columbus Children’s Hospital. The choir members sang carols and passed out holiday cards and candy canes to patients. “This is great way for the choir to meet the children who represent Hope Street Kids. It puts real meaning into the *Children for Children* benefit in which they participate every year. The choir members are very moved by this experience,” says Dr. Sandy Mathias, Artistic Director of the Columbus Children’s Choir.

Engineering Pain Relief for Children

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During those difficult times, children need fast acting relief, delivered in a non-threatening way. “That means, no needles or IVs,” Dr. Ferrari says.

The solution is a small patch that contains a commonly-used, fast-acting pain drug and that is applied to the inside of the mouth at the cheek lining. Unlike a pill that requires time to breakdown in the digestive system before entering the bloodstream, the patch delivers the medicine in seconds and for as long as needed — up to several hours.

The device has been developed using *nanotechnology* — the manipulation of microscopic particles. This patch contains nanoengineered materials that allow the pain medicine to be delivered only as long as the increased pain is present, minimizing unwanted side effects.

“It can be used for a sudden burst of breakthrough pain or when a child has to have a painful procedure, such as a spinal tap,” explains Dr. Sprintz. “It is so important to relieve this kind of suffering in children,” he adds, “because the cancer experience colors their whole perception of the world, for the rest of their lives.”

Safe, easy to administer and commercially viable, the patch may be the long-awaited answer to pediatric cancer pain relief.

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research have implications that reach beyond neuroblastoma,” he believes. “When you find something effective against one cancer, it may have an impact on other cancers, and potentially other non-malignant diseases.”

“It is too early to tell if this therapy will improve the chances for survival for these young cancer patients, but I am hopeful. We keep in mind that in pediatric research, a child saved can mean many years of productive life for all. And, I am very grateful that *Hope Street Kids* has the vision to embrace this important idea.”



Policy News...

Congress Expected to Introduce Bill for Improved Pediatric Palliative/ End-of-Life Care

This summer, Senators Mike DeWine (R-OH) and Christopher Dodd (D-CT) are expected to co-sponsor a bill to improve pediatric palliative and end-of-life care. On the House side, a companion bill will be co-sponsored by Congresswoman Deborah Pryce (R-OH) and Congressman John Murtha (D-PA).

The bills’ provisions are expected to include such critical issues as: reimbursement for hospice, access, training grants for educating nurses and doctors on palliative care and hospice, pain management/research, and evidence-based clinical trials. In addition, a provision would mandate coverage of pediatric palliative and hospice care by insurance companies if this care is not already provided. The legislation would also include creating a special standard of hospice care for children.

Many of the issues to be addressed in the bill stemmed from the recommendations highlighted in last year’s Institute of Medicine’s report: “When Children Die.” Last fall, HSK hosted a Congressional Briefing on pediatric pain and palliative care and has been working with other childhood cancer advocacy groups to bring awareness to pediatric palliative care issues.

Scientific Advisory Council

The Hope Street Kids Scientific Advisory Council, a panel of leading cancer experts, reviews proposals for research in treatment and prevention of childhood cancers following the National Institutes of Health grant-review standards. The Hope Street Kids grant and fellowship program is non-federally funded and is privately supported through individual, corporate and foundation contributors. Thank you for your continued support.

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Nine-year-old Caroline Pryce Walker, who lost a courageous battle in September 1999 against neuroblastoma.

Hope Street is published by Hope Street Kids, a pediatric program of the Cancer Research and Prevention Foundation. **Its mission:** to eliminate childhood cancer through advocacy, education and cutting-edge research, and to help support children with cancer and their families during and after treatment.

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News from **Hope Street Kids**, a pediatric initiative of the Cancer Research and Prevention Foundation.

Engineering Pain Relief for Children

A t Ohio State University, an eclectic team of biomedical engineers, physicians and basic scientists are fashioning a revolutionary approach to pain management. Fast, effective and technologically advanced, this pain therapy promises to dramatically improve the lives of children with cancer.

Director of Biomedical Engineering Dr. Mauro Ferrari is leading the unique group of researchers, which includes Costantino Benedetti, M.D., and Michael Sprintz, D.O. The investigation, funded by *Hope Street Kids*, has completed its first phase and the prototype of an innovative pain therapy delivery system has already been developed.

“Most children with cancer live with a baseline of pain everyday,” explains Dr. Ferrari. “Conventional opiate pain medication helps alleviate much of this pain. But frequently children will suffer from *breakthrough* pain — sudden and severe that may last for minutes or hours.”

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Drs. Ferrari and Benedetti are developing nanotechnology engineered pain relief patch.

A non-threatening, safe and easy to administer little patch may be the long-awaited answer to pediatric cancer pain relief.